

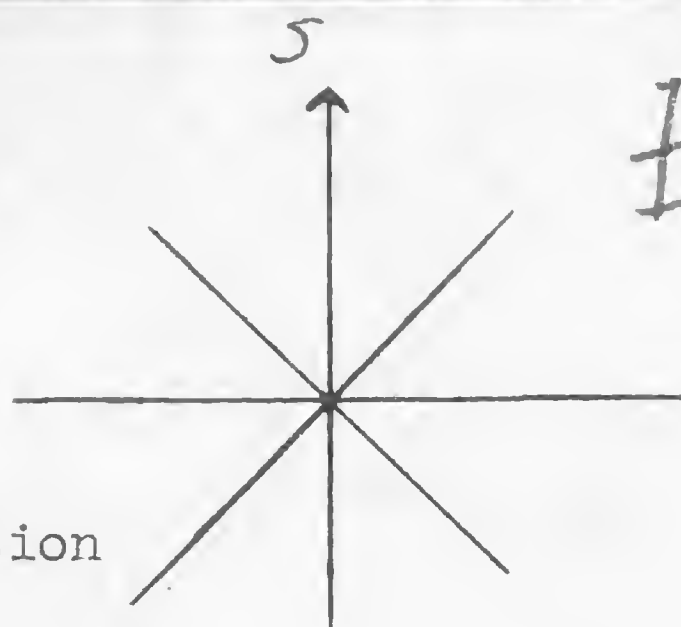
ETP 50

OBSERVERS:

Harrington

R.V. JORDAN: EASTROPAC
SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

Ship
Direction



SPECIMEN

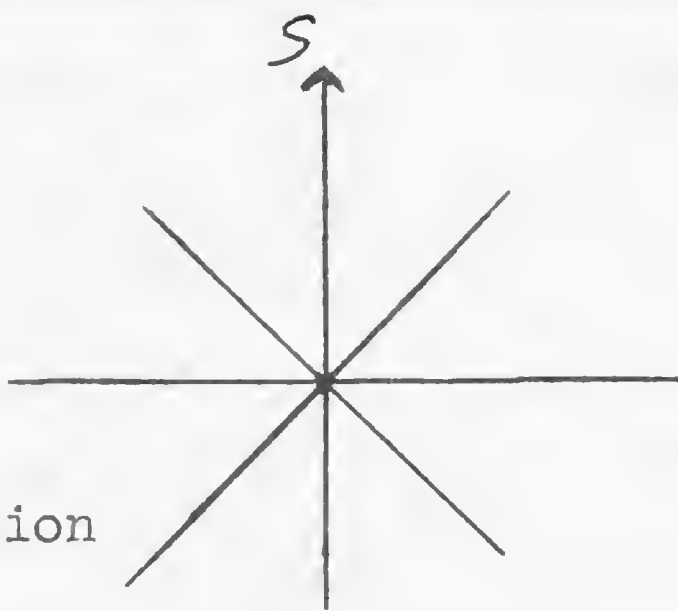
or

Date 17 Oct '67

Pg. # 1

TIME SPECIES # DIR. BAND NO. REMARKS

0645					Begin obs.
"	Mourn. Dove	1	⊙		
0658					SUNRISE (warped)
0700	Storm Pet	1			distant
0707	Gull sp	1	E		"
0724	Storm Pet	1	SW		
0725					close observ.
0750					resume observations
0822					moth (insect sightings logged for Bishop Museum personnel on board)
0856					small moth or butterfly
0902	P. creotopus	1	S		
0910	Common or Arctic Tern	1			Fishing: diving frequently
0917	Gull or Jaeger	2	E		distant
0930	Red Phalarope	2			on H ₂ O, wint plum
0940	Leach's Pet	1	NW		dark rump.
0945	Parasitic JAEGER	1			Adult light phase, good view in good light, close range. No uncertainty of identification. STOP ship. Drift
0945	Ruby cr. Kinglet	1			} both on board
	Savannah Sparrow	1			
1150					large billed form, photographed plus X
1151	White-wing dove	1	⊙		resume observations still present 1355 (Photos Ektachrome)
1152	Red Phal	1			on H ₂ O, wint plum.
1200	Storm Pet	1	NE		distant
1207	"	1	⊙		"
1225	Storm Pet	1			probably a black, NW
1242	Leach or Harcourt	2	W		
1250	R. Phal	2			on H ₂ O
1253	Pom. Jaeg	1	E		
1300	Leach Pet	1	W		dark rump
1325					4 Fly Fish 4-6"
1337	Red Phal	1			on H ₂ O, wint Plum.
1410	Leach Pet	1	⊙		
1420					Guadalupe I. in sight
1425	Storm Pet	2	⊙		



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SPECIMEN

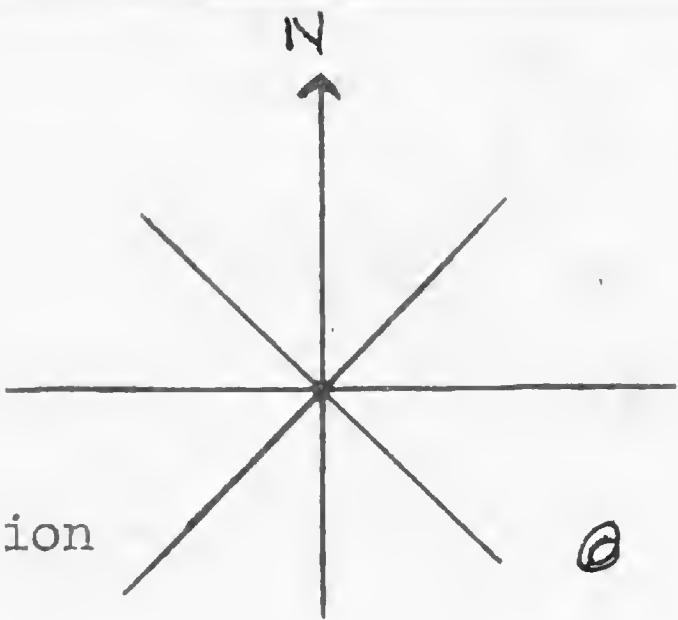
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TIME SPECIES # DIR. BAND NO. REMARKS

1430	Leach Pet.	2	☉	one on H ₂ O
1437				Flying fish 2 (12" +)
1515	Sabine Gull	1		feeding over mulling fish (Dolphin or Tuna?)
1520	Leach P	1		
1536	"	1	☉	
1540	Least Pet?	1	☉	dark rump
1550	light Sterna Tern	1	SW	looked small, may have been Leach
1550				4 Mi NE of Guadalupe
1558	Storm Pet sp	2	☉	
1600	Red wing blackbird	1		imm or ♀
1620	Leach's P	1	☉	light rump, dividing line
1625	"	1	☉	dark rump.
1630				close observ
1710				Resume "
1715	Myrtle Warbler	1	☉	
1720	Leach P	1	☉	dark rump
1720				Fly Fish 1
30				"
1804	Leach P	1	☉	

Modern dove 1
White-wing " 1
Myrtle Warbler 1
Savannah sp 1
Redwing 1
R-G Kinglet 1

1816				Sunset
				Storm Pet sp 9
				Leach = light rump - 7
				" dark " - 5 } 12
				Leach's Hawk - 2
				Least Pet ? - 1
				P. Cantopus - 1
				Camouflaged Tern - 1
				light Sterna Tern - 1
				Gull sp - 1
				Gull or Jaeger - 2
				Pomarine Jaeger - 1
				Pomarine Jaeger - 1
				R. Phal - 6
	Total sea birds	38		
	hours	8.3		
	hours 8 - 30 min			



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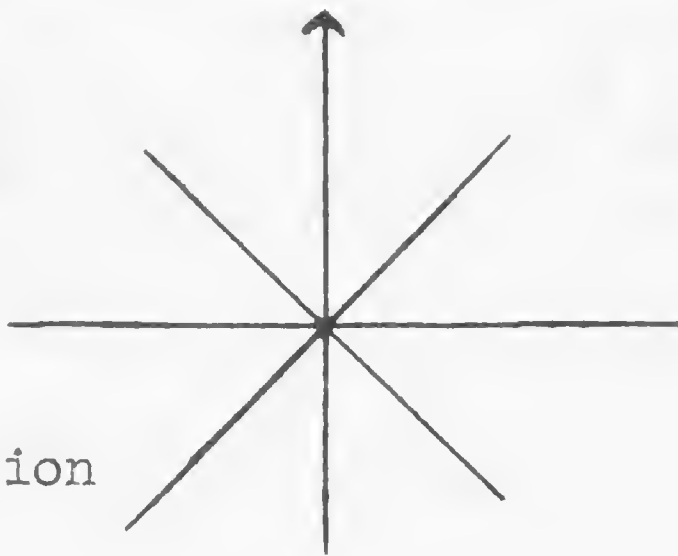
SPECIMEN

or

TIME SPECIES # DIR. BAND NO. REMARKS

0645					Begin: course was reversed during night 'cause
0655				SUNRISE	troubles in engine room. Present position slightly
0700	Leach's	3	NE		NE of Guadalupe ca 25 miles out.
0704	"	1	NE		2 light, 1 dark
0706	"	1	NE		light rump
0707	"	1	NE		dark "
0711	"	1	NE		1/2 dark "
0715			NE		light "
0722	Leach's	1	NE		1 Fly, fish 6"
0722	Storm Pet	1	N		1/2 dark, 1/2 light
0722	Peep Sandpiper	1	S		distant
0725					Least, west, or semip.
0745					CLOSE OBSERV.
0750					Resume
0830	Dove, Mourn.	1	NE		cetacean ca 8' breaking surface every 30 sec.
0836					Looks like striped or Baird's Dolphin, not seen well. Travelling
0842	Tri-colored HERON	1	E		North
0915	Peep Sandp.	1	NE		F. Fish 1 7'
0915					ca. 150' in air
0945					CC TO 215° True
1016					kelp
1045	Puddle Ducks	17	N		" (Port)
1100					poor light.
1117	Taiger sp	1	SE		few single silvery fish 7-10# jumping stab.
1122					bow.
1130					Fly fish ca 8"
1150					close obs. 20 mi from Guadalupe
1150	Sparrow hawk	1			Resume
1212					♀ (photo extract.)
1215					Fly fish ca 8"
1222					" " "
1300					Small whale (ca 15-20') only then dark, small dorsal fin.
1320					8 miles off East shore of Guadalupe
1500					close obs 5 mi off Guadalupe
1515	W. Gull	1	NE		open: maneuvering 2 miles off G.I. Eastern
1516	"	1			ad. shore north
1518	"	1			sub adult half
1530					"
					close observations

Ship
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OBSERVERS:

Date 18 Oct. '67
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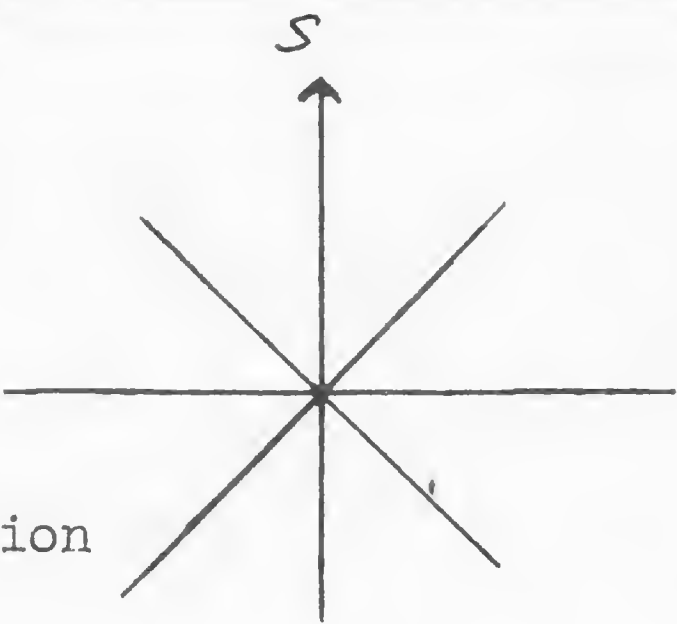
SPECIMEN

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TIME SPECIES # DIR. BAND NO. REMARKS

1600					Resume south course and ship's speed.
1601	W. Gull	4			on H ₂ O: 3 ad, 1 first year imm.
1700					CLOSE OBS.
1705	W. Gull	1			Resume observations: several gulls seen around
06	"	1			the cove at south end of the island.
1721	W. Gull	1	N		Imm, north towards island
1730					SA " " "
1747	R. Phal.	1			imm " " "
1815	Leach Pet	2			Fly. fish 1 ca 6"
1820	storm pet sp	3	N		on H ₂ O, wint. plum.
1821					1 dark rump, 1 light rump.
					distant.
					Sunset: Close observations:
					(100%)
					Sky clear, all day, winds 2-10 knts NW; sea height < 1',
					swell 4-5 feet from SSE.

Total Birds: 48
Total sea " : 26
Total hours : ~~7~~ 7 hrs - 40 min
Total miles :



Ship
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AT SEA DAILY LOG - E

OBSERVERS:

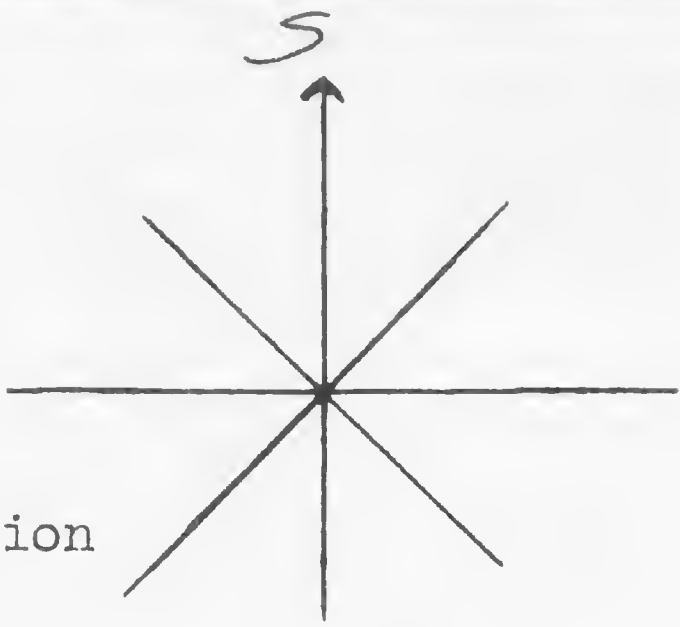
Harrington

Date 19 October
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SPECIMEN
or

TIME SPECIES # DIR. BAND NO. REMARKS

0654					SKY 100% clear; wind SE NW 12 KNTS; sea 1', swell SE 2', moon full, Barom 30.00 (=1015)
0725					SUNRISE, BEGIN OBS.
0745					close observations resume
0803	Leach Pet	1	SE		1/2 dark rump
0812	"	1	SE		"
0828	Cook Pet?	1	SE		"
0832	Leach Pet	1	SE		not seen well (distant) - appeared very light, uniform dorsal color
0835	Harcourt Pet	1	OO		dark rump
0835	Storm Pet	1	OO		well seen: flight like Leach, no black divid. line, broad white rump, slightly notched tail, feet not extending
0920	Leach's P.	5	OO	distant.	sitting on H ₂ O, all dark rump
1006	"	1	OO		very white rump, deep fork tail, dividing line seen
1015	"	2	OO		" " " " " "
1027					a few small fish (ca. 5#) jumping. Looked like tuna
1045	Leach P	5			on H ₂ O; 2 w/light rump, 3 w/dark
1100					CLOSE OBSERVATIONS
1200					Resume
1223	Leach P?	1	SE		light rump
1240	Storm Pet?	1	SW		looked small, very pronounced large white rump.
1248	P. cookii	1			Flight was almost swift or swallow-like. Wings appeared narrow. NOT A GOOD LOOK - poor light, 200 yards
1316	WRSP	2	OO		well seen, sitting on H ₂ O, flushed to SE. stiff wingbeats
1327	Leach's?	1	SE		dark rump.
1331	Storm Pet	2	SE		distant
1347	Pom. Jaeger	1	SE		light phase
1400					weather: seas same as this AM. Wind 9 knots NW
1430	P. cookii	1			SKY 30% thin stratus. Barom. 29.9
	Leach's	1			on H ₂ O, fairly well seen.
1447	Leach's	1			on H ₂ O, black div. line seen
1510	WRSP	5	OO		
1528	"	1	OO		
1540	Storm Pet?	1	OO		distant
1542	Leach's	1	SE		black dividing line seen.
1613	"	1	SE		small white rump
1615					close obs.
1710					Resume
1712	WRSP	1	SE		dividing line seen
1715	Leach's	1	SE		white rump, black dividing line seen, molt in primaries.
1723	"	2	OO		



Ship
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Date 19 Oct
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SPECIMEN
or

TIME SPECIES # DIR. BAND NO. REMARKS

1730

Am. Pterod.

1

000

1740

Leach P.

1

SE

1758

WRSP

1

SE

1800

Harcourt's

1

000

1800

WRSP

1

000

black dividing line seen.

positive I.D.

not identified.

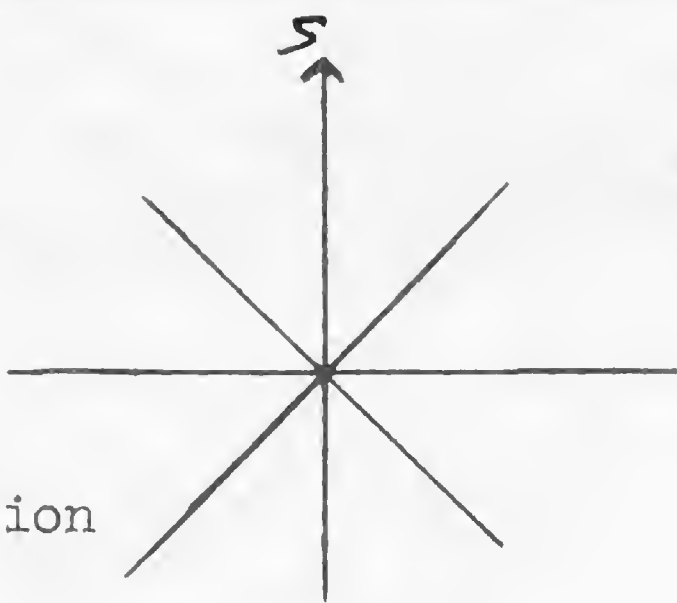
1825

Sunset

Weather essentially unchanged except
cloud cover now 60% Altocumulus
Barom. 29.96

Temp wet 24
dry 25

Total Birds: 49
hours: ~~7.3~~ 8-15 min
miles:



Ship
Direction

RV JORDAN: EASTROPAC
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DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

Date 20 Oct '67
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SPECIMEN
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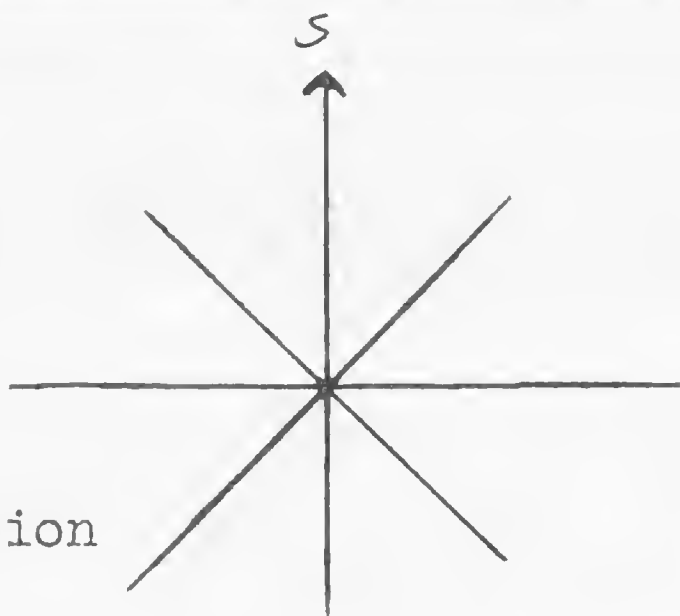
TIME SPECIES # DIR. BAND NO. REMARKS

0630	weather				cloud: 30% low cum. weather: Dry 23.6 Barom: 29.96 Wet: 23.2
0650					Salinity: 34.56 } 3 miles
0656					Begins obs
0702	Leach's Pet	1	☉		SUNRISE
0709	WRSP	1	☉		black div. line, molt in primaries
0715	Leach	1	SE		
0725					divid. line seen
0740					close OBSERV
0745	Leach	1	SE		name
0750	Storm Pet	1	☉		distant
0950	WRSP	1	SE		"
1010	RBTB	1			Following, seen well
1015	Leach's	1	☉		close, div. line seen
1017	WRSP	1	SE		
1030					close obs.
1030					weather: 5 Knt East wind: wet 25.1 Dry 26.0 Barom: 30.01. Seas unchanged, sky 05% cumulous Swell 5' SE, Seas <1'. Salinity 34.56, Temp 25.5 at 1030-930 Temp. was 26.2. Thermocline 50-250 meters resume ship's course and speed. On station since 1030
1310					Following, immature: 1335 still present, good look, Arctic
1325	Common Arctic Tern	2			"
1330	WRSP	1	☉		divid. line seen
1602	WR Leach's	1	☉ NW		
1630					close Barom 29.95 wind East Thermocl. 40-170 meters wet 27.6 speed 8 Knt dry 29.3 Seas 2 feet cloud 30% H ₂ O T. 26.2 Salin 34.60
1815					Underway again, open observations
1931					SUNSET

Total birds: 13

Total hours: 6 hrs - 0 min

Total miles:



Ship
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R. V. JORDAN: EASTROPAC
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AT SEA DAILY LOG - E

OBSERVERS:

Harrington

Date 21 October 1967

Pg. # 1

SPECIMEN

or

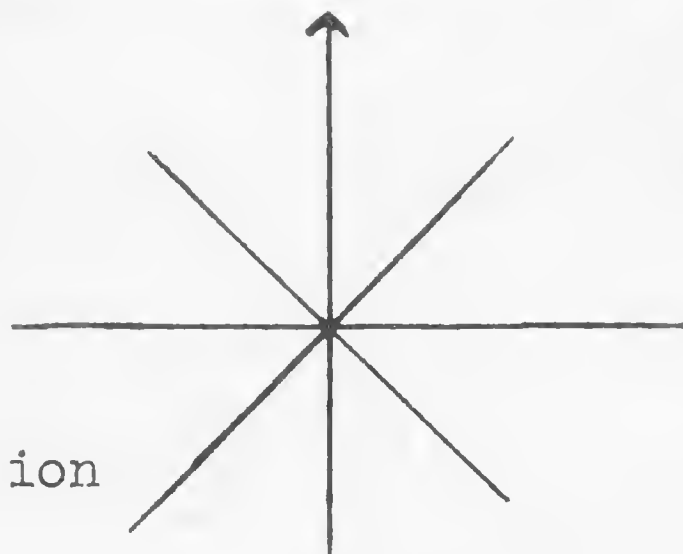
TIME SPECIES # DIR. BAND NO. REMARKS

0600	Small pterod. seen				WEATHER: 0630	Barom 29.9 (14.6)	salin: 34.72
						wind 12 knt from NE	Sea Temp: 26.2
						wet Temp: 74.8°F	cloud stratus 20%
						dry Temp: 78.8°F	
0645	underway heading south					Thermocl. depth 0430 50 meters, ends ca 150	
0650						weather 1	
0710	Leach's ?	1	SE		SUNRISE, BEGIN OBS.	Wave period 06, amount 04 ft.	
0718	Storm Pet	1	☉				
0730							
0745					close obs.		
0808	Harcourt or WILSON WRSP	1	W		resume obs.		
					all white rump, tail notch not seen well		
0815	WRSP	1	☉				
0835	WRSP	1					
0925	Leach's WRSP	1	☉		Following		
					div. line seen } Following		
0942	WRSP	1	☉				
1016	Storm Pet	1	☉		looked like Harc. or Wils?		
1025	WRSP	1	☉				
1030					CLOSE OBSERVATIONS; WEATHER: 90% altostratus cover		
					Wind 15 ⁰³ NE, wet Temp: 76.3, Dry Temp: 83.0, sea Temp: 26.8, Salin: 34.64		
					Thermocl. depth: 40 to 125 :		
					Weather 1 wave period hgt: cloud typ 7 }		
					Swell dir: Swell period: Barom		amt 7 }
1245	RTTB	1			open obs. - SS 3 knts South.		
1255	WRSP	2	☉		circled ship, landed on H ₂ O		
1317	Leach's	1	☉				
					black div. line seen: this individual had unusually prominent wing markings; had flight similar to Wilson's		
1405					resume full speed.		
1410	BFB	1			SA, circled ship & landed		
1420	WRSP	2	☉				
1435	com. or Arctic Tern	1	S		imm		
1437	WRSP	1	☉				
1505	Wilson or Harc.	1	W		seen fairly well, no black dividing line.		
1522	"	1	☉		" " " " , feeding like W, but		
1535	ARCTIC T	1	☉		no feet seen ext. beyond tail.		
1550	Wils/Harc.	1	☉		imm, close, short legs, short bill		
1606	P. externa	1	N		seen well.		
1608	Storm Pet	1	☉		going like hell		
1615					distant		
					stop for station		

SI-MNH-958-e

Rev. 5-66

Ship
Direction



R.V. Jordan: EASTROPAC
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Date 21 Oct 67
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TIME SPECIES # DIR. BAND NO. REMARKS

1630 Weather

Wind: 11 knt from 08; Dry 80.8, wet 75.5, Barom 29.96
Weather 1, cloud type 6, amt 8; Wave hgt 04 meters, sea temp 27.0
Thermocline 34-120. Salin: 34.57

1745

Resume observation: 55 SKNOTS

1800

Storm Pet

1

seen by crew

1815

RF Booby

1

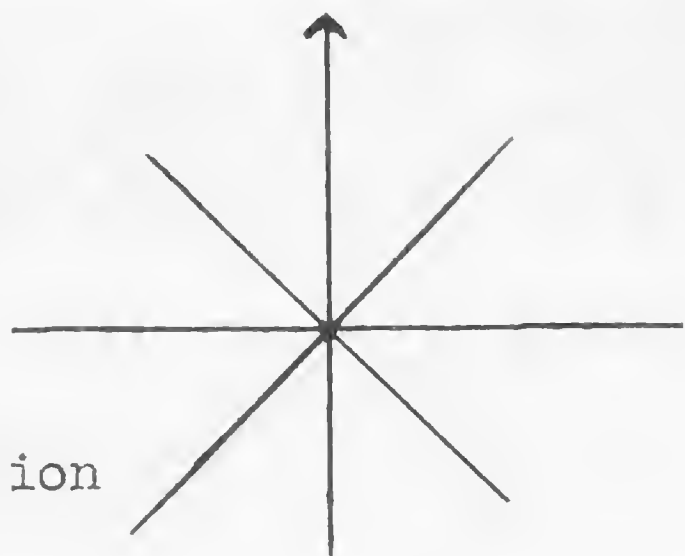
circling - Dark back, tail, dark tip on bill.
Circled once, then headed NW.

1835

SUNSET: CLOSE OBSERVATIONS.

Hours: 7-35 min

OBSERVERS:

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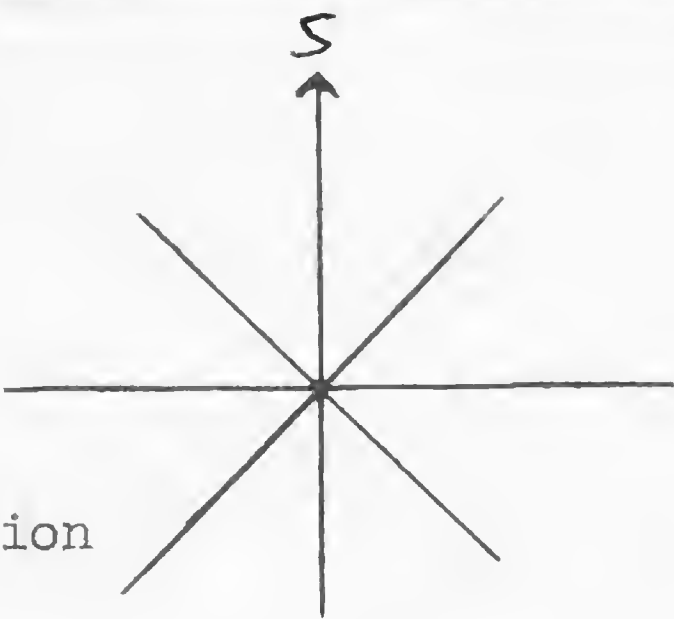
TIME SPECIES # DIR. BAND NO. REMARKS

Date 22 Oct '67Pg. # 1

0630	Weather				Barom 13.2 Wct 76.4 Dry 79.6 Sea 7meters Salin 34.50 Wind 05 dir. 27 cloud typ amt weather 2 Sea Temp 26.4 Thermcl 27meters to ca 150 meters
0815					underway, resume open observations
0822	WRSP	1			
0850	Leach's	1			
0900	Storm Pet	1			div. L. seen.
0910	Leach	1			list
0920	"	2			div. L. seen
0930	"	2			both had bl. div. line
0938	"	1			" " " "
0952	WRSP	1			bl. div. Line.
1000	Small Pterod	1			
1006	P. externc.	1			not well seen
1030	Leach's	1			joined by 1000
1040	"	1			black div. line seen
1047	WRSP	1			" " " "
1100					Stop for oceanographic station; close observations weather: wind 06 @ 10 Knt. dry 81.8 wet 76.9 Barom 14.9; weather 2 cloud type 6, amt 8. Wave 4 meters at 3 sec.; sea surf 26.6°C Salin 34.57.
1300					resume observations: course south at 5 knots
1310	RTTB	1			circling subadult: speckling on dorsal wing and side of breast; bill 1/2 orange, 1/2 black. Called twice.
1350					resume Full Speed South
1421	P. externa	1	NW		
1427	JFP	1	S		
1427	WRSP	1			
1430	Leach's	1			seen well, dividing line; molt in primaries
	Harc./Wilson	1			seen with Leach; all dark white rump, smaller and blacker, slightly more rapid wingbeat and less gliding than Leach's.
1430					rain squalls on Horizon E, S, W.
1445	Leach's	1			
1505	WRSP JFP	1			divid Line seen
1530	P. ext.	1			
1532	WRSP	1	SW		
1535					ship entering squall area

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SPECIMEN

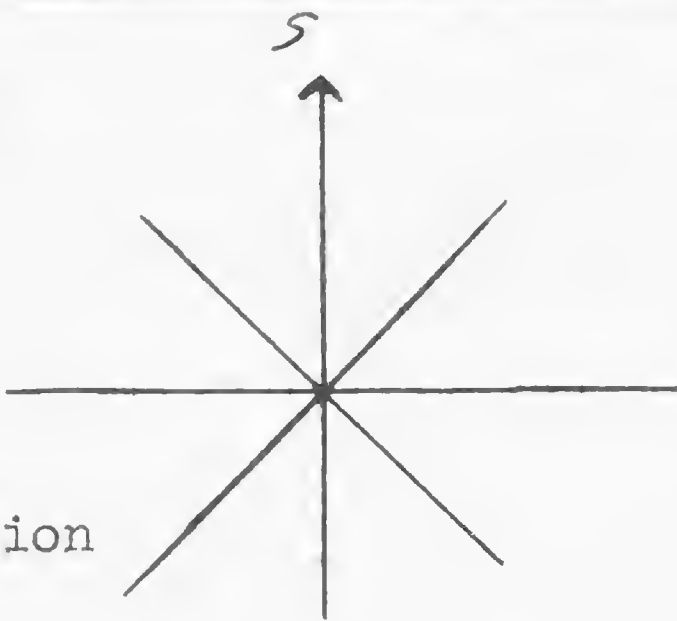
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TIME SPECIES # DIR. BAND NO. REMARKS

1537	Kermadec P	1	W		dark phase, in rain squall
1539	P. hypol. n.	1	W	}	in rain squall
	P. ext	1	W		
1544	Wedgetail	1	W		dark in n.s.
1544	P. ext.	1	W		" "
47	Wils/Harcourt	1	W		" "
1552	Leach P	1	S		div. line seen
1552					now leaving rain squall.
1600					
1601					stop for oceanography station: close observations
17 1635	JFP	1	OO		unidentified twitbird around.
17 1635	White-rump-Stampets.	13	OO		Resume observations and South course full speed
17 1635					all feeding along a line of obvious current activity as evidenced by unusual rippling of the water.
1735					
1745	Shear/Pet	1	W		NOTE SHIP JUST CROSSED LINE of currents
1758	P. externa	1	OO		
1803	JFP	1	OO		
1805	WILSP	1	OO		
1820	JFP	1	OO		
1820	Leach's	1	OO		divid. line seen.
1840					close observations

RTTB[?] present just prior to sunset
seen by crew

Total birds: 52 + 1 landbird
miles:
hours: 6-50 min



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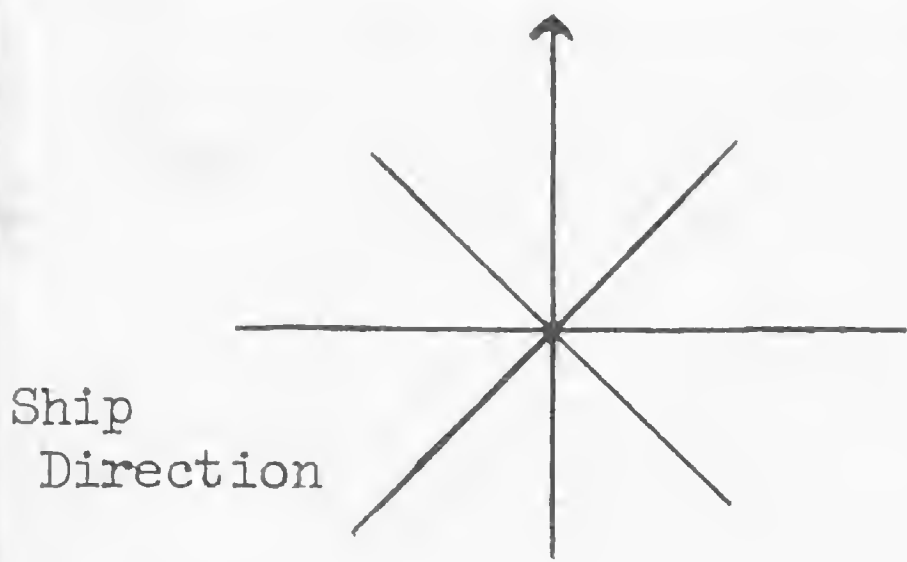
Date 23 Oct 67
Pg. # 1

SPECIMEN

or

TIME SPECIES # DIR. BAND NO. REMARKS

0645					sunrise
0700					begin observ.
0700	RTTB	1			
0720	P. ext.	4			subad sp circling: speckl. belly & dorsal wing
	P. hypoleuca	1			
0725	P. carneipes	1			dark
0725	WRSP	1			
0730					
0750	WRSP	1			close observ.
0750	Shear/Pet	4			Follow open
0750	RTTB	2			on H ₂ O
0809	Leach's	2			one from 0700
0816	Wedgetail	1			div. line seen
0816	WRSP	1			dark
0820	"	1			
0820	Jaeger sp	1			
0830	JFP	1			
0831	RTTB	3			
0831	Leach's	2			Add one to 0750 All subadult
0845	JFP	1			div. line seen.
0850	WTS	1			
0855	Shear/pet	1			light phase
FF 0907	WTS	2			dist.
	P. ext.	8			light
	P. hypol.	5			
0910	RTTB	2			
0915	WRSP	1			
0920	Twitbird	1			Now 5 subadults
0925	JFP	2			greenish-yellow, dark green back. yellow eyeline, dark streaking on breast. Legs dark, bill black. Some sort of Warbler? Orange-crowned most likely
0932	WRSP	2			
0937	WTS	2			1 dark, 1 light
0938	Leach's	1			div. line seen.
0945	WTS	2			
0952	Leach	5			1 dark, 1 light
0956	WTS	1			on H ₂ O, flushed to SE
1000	Wils/Harc	1			light
					no div line, immaculate white rump



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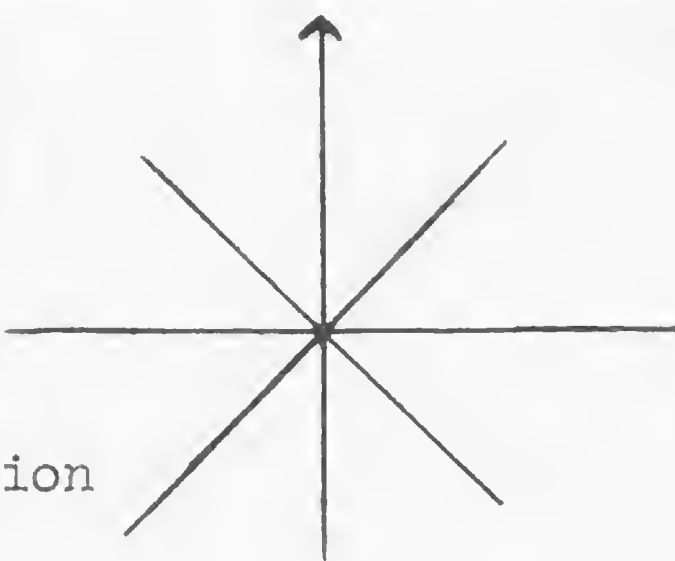
SPECIMEN

or

TIME SPECIES # DIR. BAND NO. REMARKS

	1000				rain squalls to SW & E
	1008	BWP	2	⊙	
FF	1010	Soot Tern	4		adults
		WTS	3		light
		WTS	1		dark
		JFP	11		
		P.hypol.	5		
		Porpoise	12		all black, triangular dorsal fin, Long snout, steep forehead. Flukes curved up while in air. Ca 6' long
		WRSP	3		
		Taeger sp	1		light phase
	1020	WRSP	1	⊙	
	1025	Leach	3	⊙	div line seen
	1028	W/Harcourt	2	⊙	
	1030			⊙	
	1120	Pintail	25		Station STOP, close obs landed 150 yards from the ship.
	1230				1030 weather } wind 09@03 Dry 82.5 wet 76.5 Barom 13.5 Weather 1 old typ 6 ant 6 wave 02-04 heat 27.4
FF	1231	JFP	1		resume obs, 5 knots south
		P. externa	5		
FF	1235	Shear/pet	8	⊙	AT edge of rain squall
	1250	WRSP	1	⊙	
	1258	Harcourt's	1	⊙	very well seen; shallow-forked tail, feet not extending. No black div. line.
	1304	WRSP	1	⊙	
	1305				Resume full speed.
	1308	WRSP	1	S	
	1315	JFP	2	⊙	
	1315	WRSP	2	⊙	
	1320				The 25 pintail just flew by headed south. Watched them for 5 minutes. were in a line formation and slowly gaining level during this period; very little deviation from course. When last seen they were estimated to be at ca 1000' and climbing slowly.
	1332	Wedg. tail	1	⊙	light
	1332	Harcourt	1	⊙	seen well

OBSERVERS:

Ship
Direction

RV JORDAN EASTROPAC

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

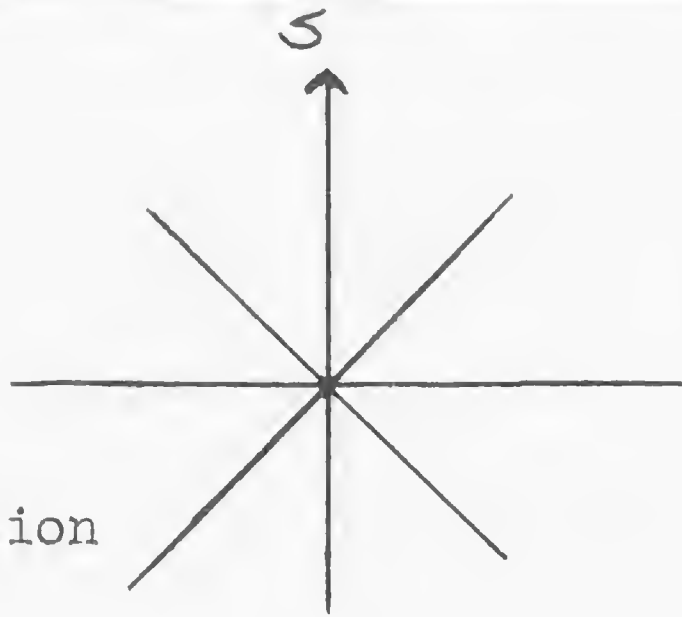
SPECIMEN

or

TIME SPECIES # DIR. BAND NO. REMARKS

Date 23 Oct '67
Pg.# 3

	1335	JFP	1	all	
FF	1346	Wedgetail	5		light
		"	1		dark
		JFP	2		
		Sooty/slender	1		
		Soot. Tern	1		ad
	1350	Storm Pets	6	all	feeding?
	1358	Leach's	1	SE	divid. line seen
	1402	WTS	1	all	light
	1403	JFP	1	all	
	1404	WTS	1	all	light
	1406	WRSP	1	E	
	1408	Leach's	1	SE	div. line
	1408	"	1	SE	divid line
	1408	WRSP	1	"	
	1408	WTS	1	E	light
	1413	Leach	1	SE	div. line
	1413	WRSP	2	E	
	1418	Leach	2	E	div. line
	1418	storm P	1	E	
	1420	Leach	1	E	div. line
	1420	WRSP	2		
	1428	Leach	1	all	
	1434	shear/pet	1	E	div. L.S.
	1438	Leach's	2	SE	div. line seen on wing
	1442	JFP	1	all	
	1442	WRSP	1	all	
	1445	WTS	1	SE	dark
	1445	WRSP	1	all	
	1450	Storm P	1	E	
	1452	WTS	1	SE	
	1456	Leach P	2	SE	div. line seen.
	1459	WRSP	8	all	on H ₂ O
	1500	wils/Harc.	1	SE	
	1502	Leach	1	E	
Fish					two tuna-type or Dolphin jumped off port side.
	1505	Storm Pet	4	all	
	1507	JFP	2	all	
Flock	1515	Leach's Pet	12		Flock over small slick
		WRSP	43		
		Murphy Pet?	1		
	1528				entering rain squall



Ship
Direction

R/V JORDAN: EASTROPAC
SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:
Harrington

Date 23 Oct. '67
Pg. # 4

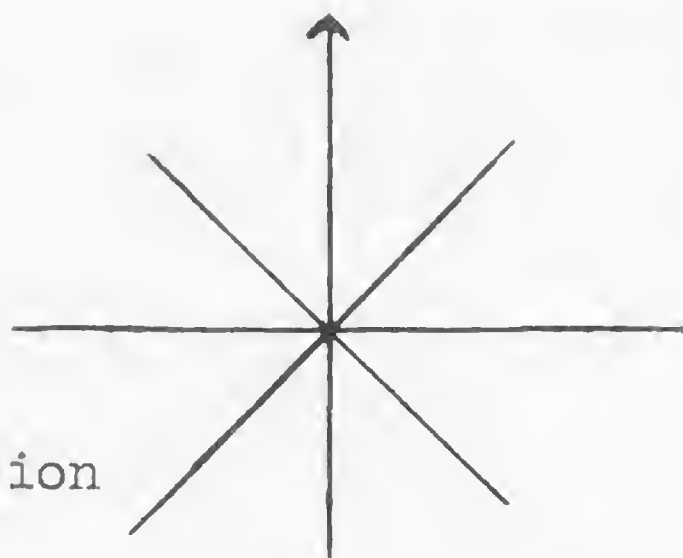
SPECIMEN
or

TIME SPECIES # DIR. BAND NO. REMARKS

1540	weird bird Shear/Pet.				Larger than wedgetail: all dark underwing, dark cheast. Dorsal wing and back ^{dark} brown, belly and breast ^{light} brown, underwing all dark. Not Phoenix/Tahiti. P. creotopus - size; in rain squall.
1545					STOP for oceanography station
1800					RESUME OBSERVATIONS: 10 KNOTS SOUTH
1805	WRSP	1	SE		NOT ^a LEACH'S
1807	Leach's Harc./Wils	1	NW		div. line smaller seen
		1	NW		noticeably smaller than Leach
1810	WRSP	#1	NW		
1815					ENTERING rain squall
1817	WRSP	1	SE		
1820	Leach's	1	NW		div. line seen
1822	WTS	1	☉		light.
1830	Storm Pet	1	☉		
1840	WRSP	1	☉		
1840					Sunset, close observations

Total sea birds: 250 + 26 land birds
miles :
hours : 7-20 min

Ship
Direction



RU JORDAN EASTROPAC
SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:
Harrington

Date 24 Oct '67
Pg. # 1

SPECIMEN

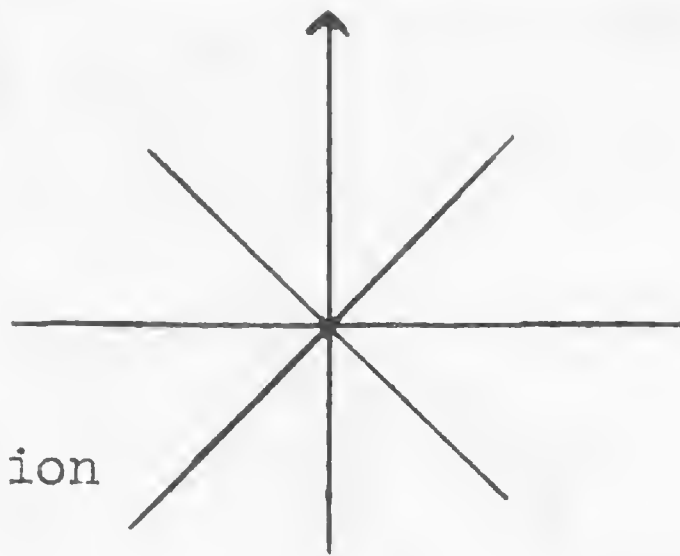
or

TIME SPECIES # DIR. BAND NO. REMARKS

0900					ON STATION SINCE SUNRISE (0640): 200 Pext., 10 Phypoleuca, 75 Wedgetails (light), 10 dark Wedgetail, 1 Common Noddy. All were in vicinity of buoy station where fish and sharks were VERY ABUNDANT. All birds left when rain came, returned when it left.
1017					begin obs. Raining
1018	WRSP	2	SE		
1020	P. ext.	2	SE		
1022	"	1	SW		
25	JFP	1	E		
27	JFP	2	SE		
1030	WRSP	1	SE		
1030	P. ext.	1	SE		
1032	WRSP	1	N		
1035	WTS	1	SE		light
1040	P. ext.	1	SE		
1048	Leach P	1	SW		
1048	JFP	1	SE		
1052	WTS	1	SE		Light
1053	"	1	E		"
1100					
1250					close observations for Oceanography Sta.
1255	Shear/pet	2	E		resume observations, 5 knots south
1256	BWP	1	N		Raining
1305	JFP	2	SE		
1307	BWP	1	SE		
1310	wedgetail	1	SE		
1310	P. externa	1	SE		Light
1315	P. externa	1	SE		
1313	WRSP	1	S		
1317	Leach's	1	SE		
1318	JFP	1	SE		
1320	BWP	1	SE		
1326	wedget.	1	SE		dark
1326	P. ext.	4	SE		
1330	wedgetail	1	E		dark
1335	P. ext.	3	E		
1333	JFP	1	SE		
1340					resume full speed
1345	P. externa	1	E		
1405	Leach's P	1	SE		
1410	WTS	1	SE		
1410	JFP	1	SE		
1433	P. externa	1	SE		

Total birds: 375
Total miles:
Total min: 430

Ship
Direction



RV JORDAN EASTROPAC

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

Harrington

Date 24 Oct 1967
Pg.# 2

SPECIMEN

or

TIME SPECIES # DIR. BAND NO. REMARKS

1436	P. externa	1	E		
1438	Leach Pet	1	E		div. line seen
1440	" "	1	S		" " "
1455	Long-t. Tarp	1	SE		light + ph.
1512	JFP	1	NW		
1515	Leach's	1	⊙		div. line seen.
1520	JFP	1	⊙		
1522	Leach	1	⊙		" " "
1535	BWP	1	SE		
1537	Phoenix/ Tahitian	1			on H ₂ O
1537	P. ext.	1	⊙		
1541	BWP	1	SE		
1557	Leach P	1	S		div. L.S.

stop for oceanography station: close observations.

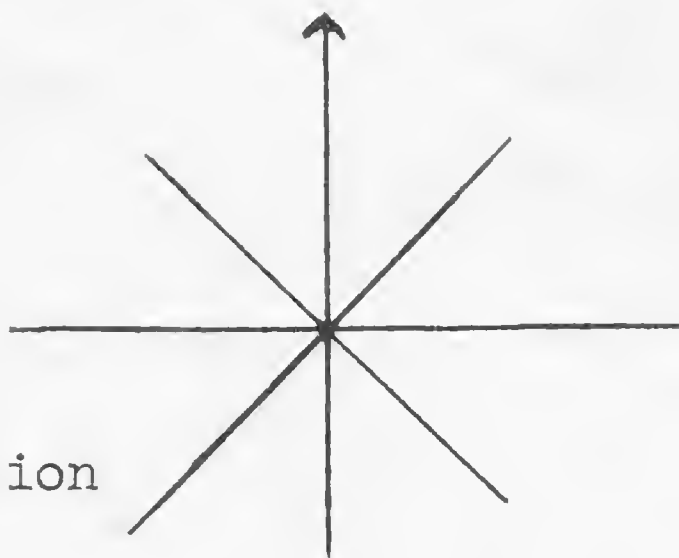
resume south course & observations

1745	JFP	1	⊙		
1752	Shear/pet	1	SE		
1754	P. externa	2	⊙		
	Phaethon	1	⊙		
1754	Leach P	1	⊙		div. line seen.
1812	WRSP	1	⊙		
1814	Leach's	1	⊙		" " "
1820	Phoenix Tahiti	1	⊙		
1836	WRSP	1	⊙		
1845	Pterodroma sp?	1	⊙		
1850	Bird	1	⊙		too dark to see, close obs.

sunset

Hours: 5-0 min

OBSERVERS:

Ship
Direction

R.V. JORDAN: EASTROPAC
SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

Date 25 Oct 67Pg. # 1

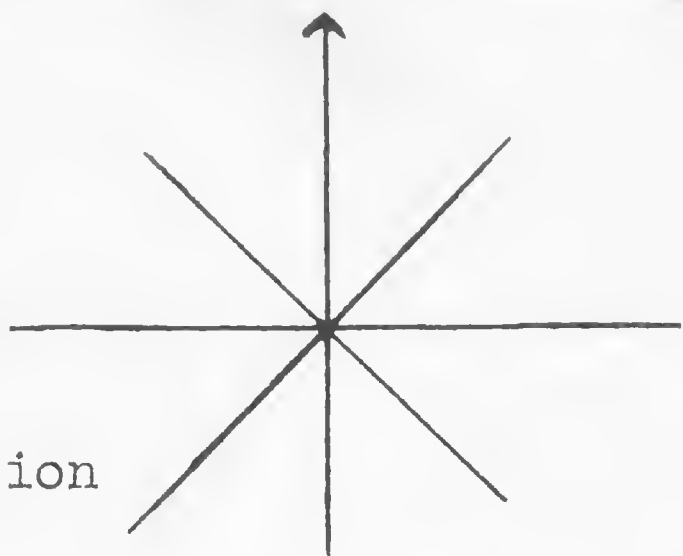
SPECIMEN

or

TIME SPECIES # DIR. BAND NO. REMARKS

0640					Begin obs Sunrise
0720	JFP	1	SE		
0730					close obs.
0800					resume "
0830	JFP	1	SE		
0835	WRSP	1	E		
0845	BWP	1	NW		
0903	P. puffinus	1			molt in primaries.
0920	JFP	2			
0923	BWP	1	SE		
0925	JFP	1			
0950	Shear/pet	4			on H ₂ O, molt on U. tail covts.
1022	WTS	1	W		dark
1030					
1205					stop for oceanography station close obs.
1234	WRSP	1			resume course south at 5 knot, resume obs.
1242	"	1	S		
1245	JFP	1	SE		
47	BWP	1			
1255	Shear/pet	1			
1305					
1330	WRSP	2	S		Full speed ahead
1330	WRSP	2	S		Full speed ahead
1420	P. leucoptera	2			thin black border to underwing, distinctive coloring on side of breast.
1420	Phoenix/Tahitian	1			molt in U Tail covts.
1421	JFP	1			
1434	RTTB	1			
1442	Wils/harc.	1			on H ₂ O
1442	BWP	1			
1445					All stop - drift
1455	Wils/harcant	1			seen well, white rump, NO div. line
1510					underway again.
1522	Wils/harc	1			
FF 1526	Sooty T.	13			adults
	Shear Pet	15			
1548	Sooty Tern	3	S		adults

OBSERVERS:

Ship
Direction

R. V. JORDAN: EASTROPAC
SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

SPECIMEN

or

 Date 25 Oct '67
 Pg. # 2

TIME SPECIES # DIR. BAND NO. REMARKS

1607 shear Pet 1

1617 WRS P 2

1617

1618 P. leucopt. 1

1627 Leach's 1

1630 NW

CC To W

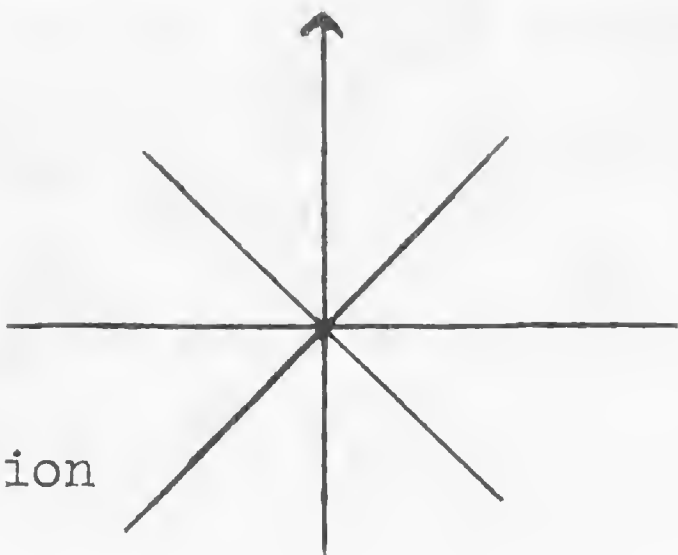
div. line seen

close for chow

1700

 took up oceanography station, were there
 until after sunset; no observations.

Total hours. 7-45 min



Ship
Direction

R.V. JORDAN: EASTROPAC
SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

Date 26 Oct '67
Pg.# 1

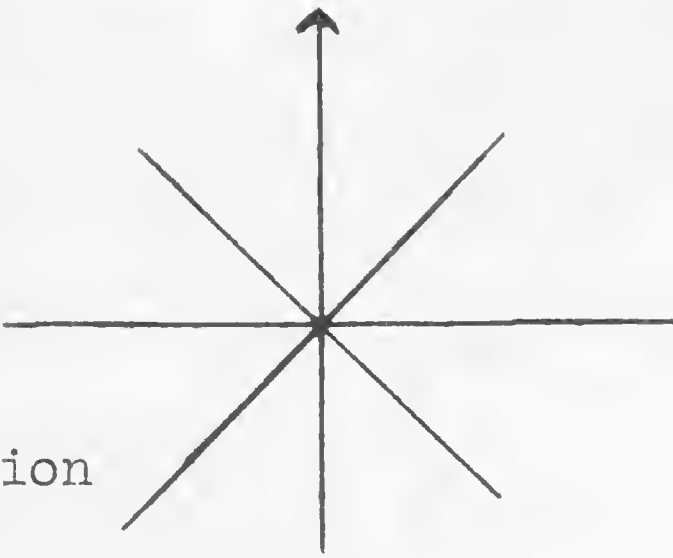
SPECIMEN

or

TIME SPECIES # DIR. BAND NO. REMARKS

0645					sunrise, begin observations
0652	<i>P. leucoptera</i>	1			
0656	Leach's	1	W		
0710	Storm Pet	1	SW		div. line seen
0730			☉		distant
0800-0815					close observations
0815	JFP				all stop
0820	P. externa	1	☉		Resume obs. at 10 knots south. LOTS OF flying fish: too many to count
0830	Small Pterod	1	NE		
0835	<i>P. ext.</i>	1			
0836	JFP	1	SE		
0900	<i>P. externa</i>	1	☉		
0905	<i>P. externa</i>	1			sitting on H ₂ O
0920	<i>Pterodr. sp</i>	1	S		
0920-45			SW		
0934	Leach's	1	☉		surface currents & slicks visible: many large flying fish: For photos (KXTachrome) were taken of current lines, 3 in B & W
0940	WRSP	1	☉		
0950					
0952	WRSP	10	☉		Turned around & came back over current. Drift along current line.
1000					close obs
12:45					Resume 5 knots south, open obs.
1300	WRSP	2	W		
1300	RTTB	1	☉		
1330	WRSP	1	☉		ceasing subadult (photo KXTachrome)
1335			☉		Resume full speed
1346	Storm Pet	1	☉		
1456	Leach's	3	☉		
	WRSP	6	☉		
1500	Wils/Harc	1	☉		
1500	Red Phal	1			on H ₂ O, wint. Plum No question about identification
1501	Phal. Ap	1			on H ₂ O, wint plum might have been a different
1505	Leach's	5	☉		
	WRSP	1	☉		
1506	<i>P. externa</i>	1	☉		
	Phoenix/ Tahiti	1	☉		

OBSERVERS:

Ship
Direction

R. V. JORDAN: EASTROPAC
SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

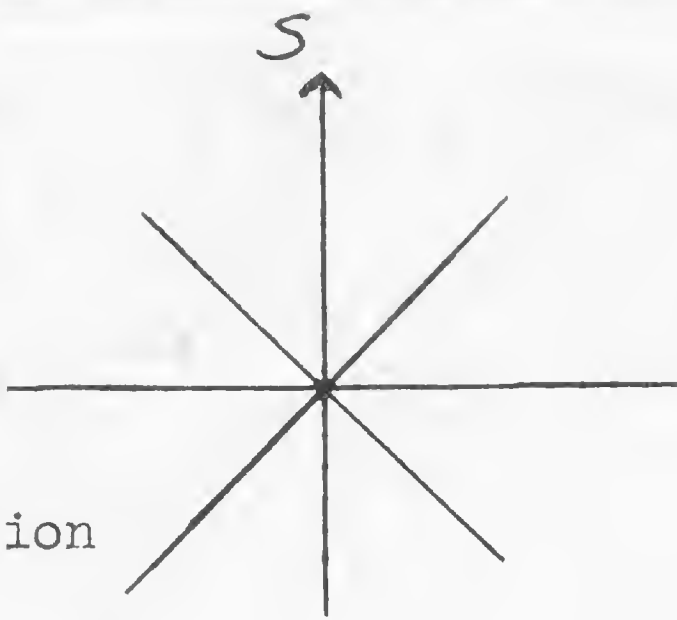
SPECIMEN
or

Date 26 Oct '67
Pg. # 2

TIME SPECIES # DIR. BAND NO. REMARKS

1509	Wils/Harc.	1	⊙		
1515	Wils/Harc	1	E		
1518	Leach's	1	S		
1540	JFP	3			div. L. seen, in H ₂ O
1540					porpoise ca. 35±10 SW SE
1550					close observ.
1815					resume south course and observations
1840					Sunset: close observations

Total hours 6-45min



Ship
Direction

R. V. JORDAN: EASTROPAC
SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

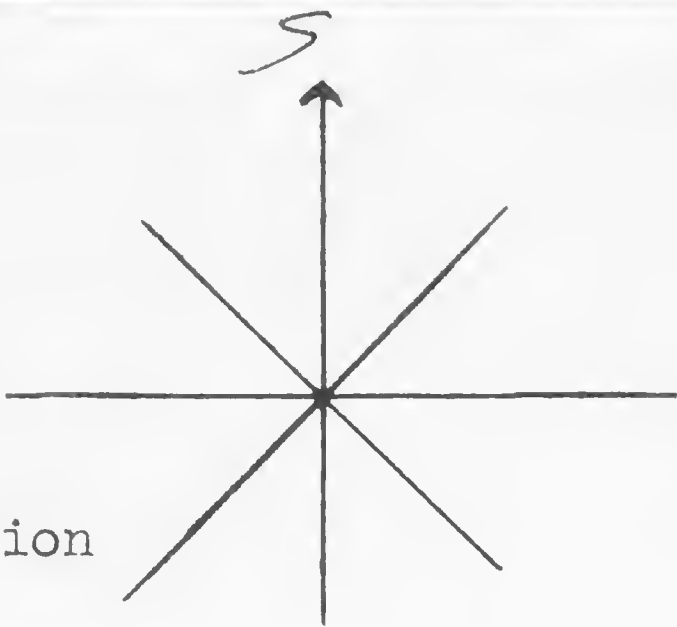
Date 27 October 1967
Pg. # 1

SPECIMEN

or

TIME SPECIES # DIR. BAND NO. REMARKS

0645.					SUNRISE: Begin observation
0720	WRSP	1	W		
0730					
0800					close obs.
0801	Leach's	1	E		resume observations
0858	JFP	2	⊙		div. line seen
	Sm. Pterod	2	⊙		
0900	RTTB	1			
0950	Small Pterod.	1	SW		Following: imm; heavy scaling on back, black bill, short central rectrices, black flecking on Head. NO BAND
0954	Leach's	1	⊙		
1000	P. leucop.	3	⊙		div. line seen
					very promin. "W" pattern, black side to chest. Underwing border quite dark, but distinct. Was closer in pattern to P. hypol. h. than any other leucop. I have seen, but lacked hash mark on underwing. Head(crown) considerably darker than back.
	Tahiti? Petrel	1	⊙		Back brown, lower, belly white, chest brown. Underwing dark but with heavy molt causing splotches of light. Head much lighter (molt?) than rest of brown body. Bill short. Flight fluttery & gliding.
1020	P. leucop.	1	SW	descript. same as 1000	
1030	"	1	⊙		
1030	Leach stamp	1	⊙		div. line seen
1030					stop for station. close obs.
1215					resume observ: 05 KNOTS going south
1225	WRSP	1	SW		
1245	Kermadec P	1	NW		dark
1300					increase to full speed
1304	WRSP	1	NE		
1320	Leach's	1	⊙		div. line seen
1328	JFP	1	⊙		
1330	WRSP	1	W		sitting on H ₂ O
1337	JFP	1	SW		
1347	WRSP	1	⊙		
1358	P. externa	1	W		
1353	Leach's P	1	⊙		div. line seen
1403	"	1	E		" " "
1405	"	1	NE		" " "
1420					" " "
1427	Taeyes sp	2	E		BT STOP
1435					light resume full sp



Ship
Direction

R. J. JORDAN: EASTROPAC
SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

Date 27 Oct '67
Pg. # 2

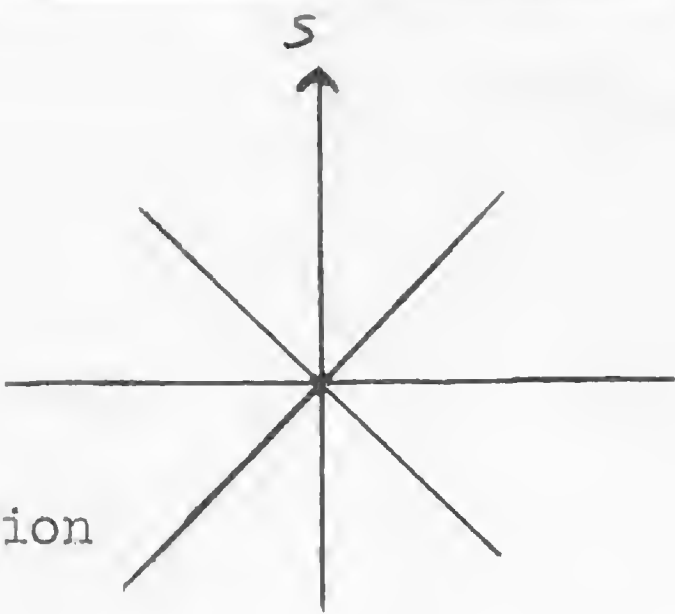
SPECIMEN

or

TIME SPECIES # DIR. BAND NO. REMARKS

1440	WRSP	1	⊙		
1518	"	2	⊙		
1530	Fairy Tern	1	⊙		
1535	Sooty T.	2	SW		Fishing, fairly distant, but sure of identification
1540	P. externa	1	SW		adult
1600					
1800					stop for oceanography station: close observ.
1812	JFP	1	SW		resume watch: 10 knots south.
1830	Pterodroma sp	2	⊙		looked like small Pterod, distant.

Total hours: 7 - 30 min



Ship
Direction

R. V. JORDAN: EASTROPAC
SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

Date 28 October 1967
Pg. # 1

SPECIMEN
or

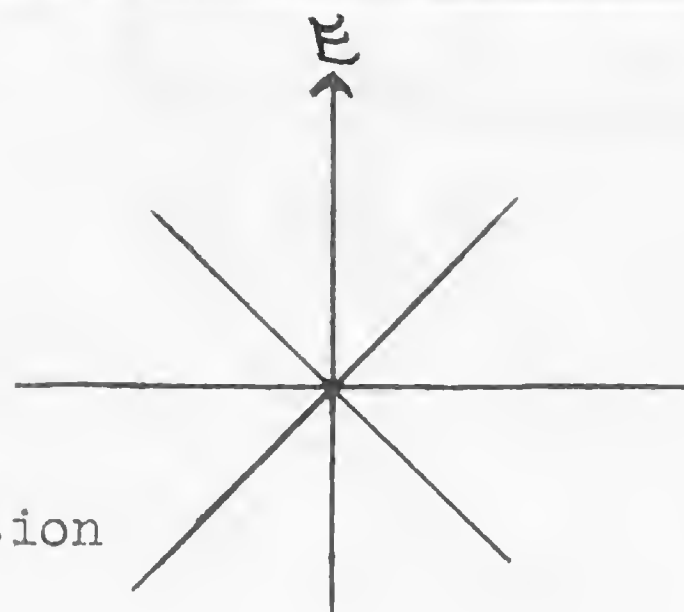
TIME SPECIES # DIR. BAND NO. REMARKS

0640					sunrise, begin obs.
0725	<i>P. externa</i>	1	W		
0730					
0750					close obs. resume "
0814	<i>P. externa</i>	1	SW		
0830					
0840	<i>P. leucoptera</i>	1	⊙		stop for BT
0842					
0915	<i>P. externa</i>	2	⊙		Resume south course
0936	WRSP	1	W		
1030					
1051 1215					stop for oceanography station.
1305					Resume south course @ 5 knts; resume observations
1335	P. externa JFP	2	SW		resume full speed
1410					
1426					stop for BT
1500	<i>Pterodroma</i> sp	2	⊙		underway again
1505	Leach's P.	2	⊙		sitting on H ₂ O
1550					dividing line seen.
1805					stop for ocean. station
1845					Resume south course and full speed and observat.
					sunset, close observations.

Total Birds 12

hours: 7 - 40 min

Ship
Direction



R.V. JORDAN: EASTROPAC
SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

HARRINGTON

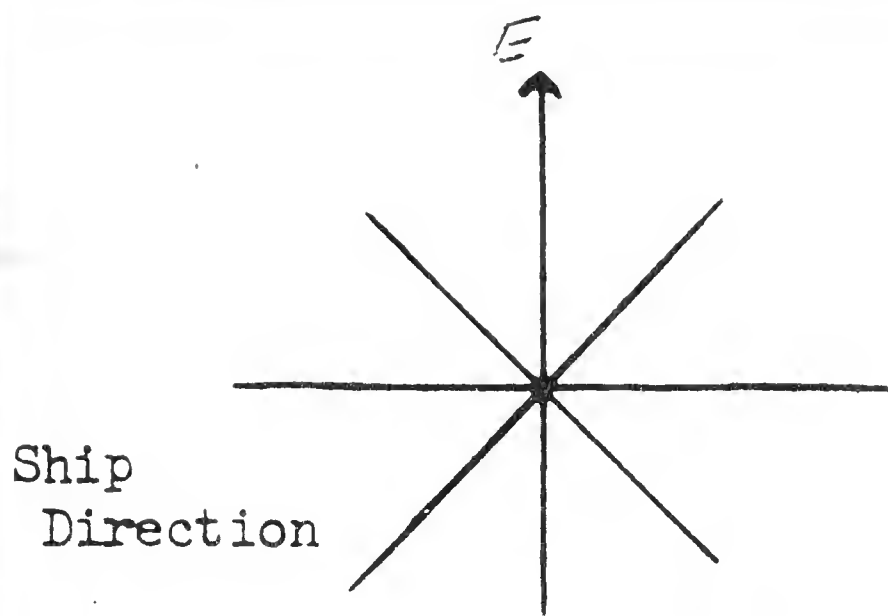
Date 29 Oct 67
Pg.# 1

SPECIMEN
or

TIME SPECIES # DIR. BAND NO. REMARKS

0640					SUNRISE NO SQUID SEEN BY 0400 WATCH
0815					
0820	WRSP	1			Begin observations (for day): BEGIN EAST COURSE AFTER 10 MIN BT. STOP. COURSE WAS S. UNTIL 0800.
1000	WRSP	1			Very few flying fish
1030					
1130					Weather Barom 30.00, Day T. 22.1 Wet: 21.6; Wind ESE @ 10 knt.
1200					surf Temp 22.4 Salin 34.92: cld. type O, amt 0
1214	P. externa	1	S		close observ. moderate # of flying fish seen.
1320					resume obs.
1340					manta Ray w/ca 5' wing spread sighted by
1355	Leach's	1			R. Owen
1430	P. leucopt.	1			another ray
1437	P. externa	1			
1442	WRSP	2			
1502	Leach's	1			div. line seen
1504					big herds of flying fish start. side.
1525	P. leucopt.	1	SW		
1530					All stop.
1545					
1555	P. leucopt.	1			UNDERWAY again,
	WRSP	1			circling storm petrel
1606	P. ext	2			on H ₂ O
1620	WRSP	2			
1622	JFP	1			
1630					close observation
1705					resume
1715	JFP	1			" Wet Temp 21.9, dry 22.8; barom 29.87
1735	"	1			wind SE @ 10 knt. Cloud cumulus = 50%. Sea Temp
1745	Pterod. sp.	1			ca. 24°C
1750	Pleuoptera	1			
1756	"	2			
55	P. ext.	1	SW		
1815	P. ext.	1	SW		
1835					close observation

Total birds 25
hours: 9-15 min



Ship
Direction

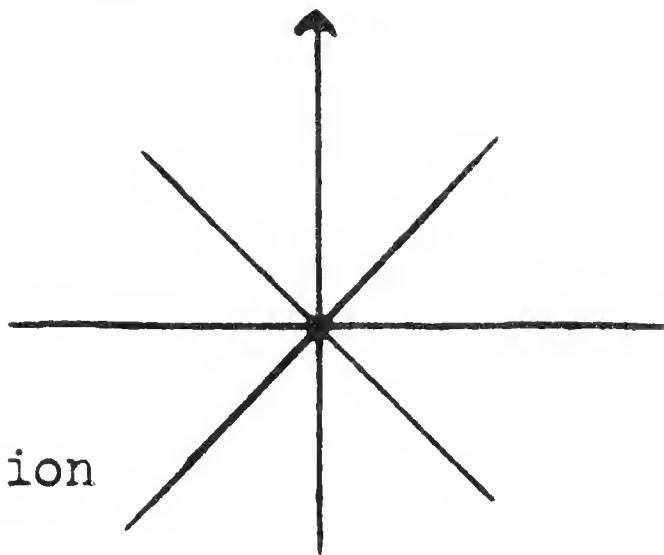
R.V. Jordan: EASTROPAC 50
SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

Date 30 Oct. 1967
Pg. # 1

SPECIMEN
or

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
0620					SUNRISE; begin observations
0700	shear/Pet	1	N		
0730					
0800					LOTS of Flying fish close observations
0822	WWP	1			Resume " very high # of flying fish continues
0830	JFP shear/Pet	1	☉		0800: Wet 21.3, Dry 22.0, Barom. 29.99; cloud < 5% cumulous
0835	P. ext.	1	☉		wind SE @ 10 knts
0845	WRSP	1	☉		
0920	RBTB	1	☉		
0925	WWP	1			following (photo aqfa) adult(?) long tail, bright red bill.
0940	WRSP	1	SW		Flying fish decreasing
0950	WWP	1	☉		
1030	WWP	1	☉		
1042	WWP	1	SW		
1130		1	☉		
1200					close observation: occasional single flying fish
1218	WWP	1	SW		Resume obs: wind SE @ 14 knts; wet 21.5, Dry 22.4. Barom
1246	WWP	1	SW		cloud 10% cumulous 29.96
1248	WRSP	1	☉		
1256	WWP	1	☉		
1256	Leach's Wils/Harc.	4	S		on H ₂ O
1306	WRSP	2	☉		"
1310	JFP	1	☉		
1310					
1340	WRSP	1	S		Flying fish increasing... schools frequent now.
1343	"	1	S		
1410	WWP	1	☉		
1500					Flying fish still abundant.
1520	Bird	1	NE		distant
1520					Flying fish becoming scarce
1534	WWP	1	SW		
1605	Leach's P.	1	☉		div. line seen
1614	"	1	☉		" " "
1618	P. externa	1	S		
1620					close observations



Ship
Direction

R.V. Jordan, EASTOPAC
SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

Date 30 Oct 1967

Pg. # 2

SPECIMEN

or

[illegible]

1715					While at chow a RBTB adult flew over ship.
1715	P. externa	1	(000)		Resume observations
1718	"	1	S		
1718	Pterod. sp.	1	S		
1722	P. externa	1	SE		
1800	W W P	1	(00)		Sunset.
1825					

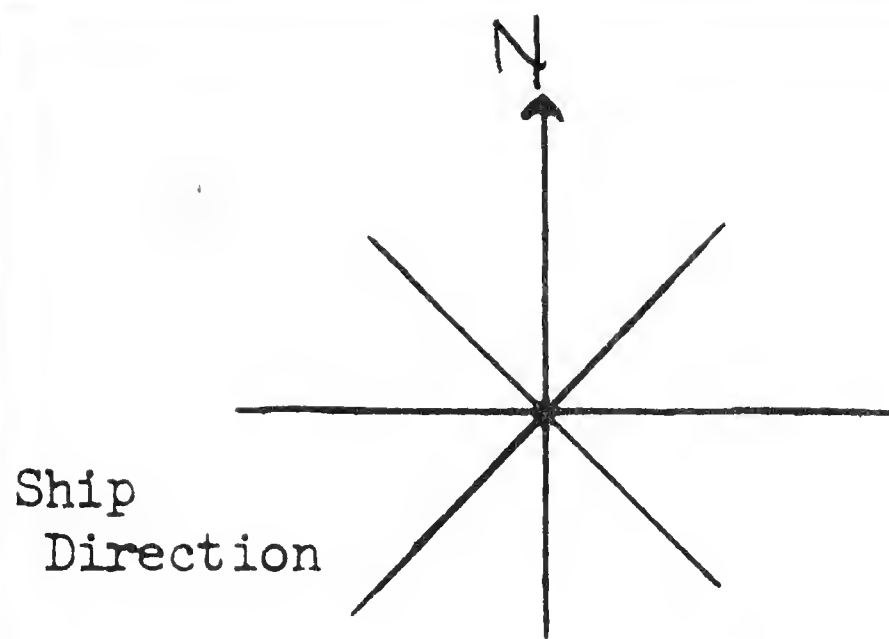
Total birds 36

hours: 10 - 10 min

SI-MNH-958-e
Rev. 5-66

Total birds 36

hours: 10 - 10 min



Ship
Direction

EASTROPAC —
SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

Date 31 Oct. '67

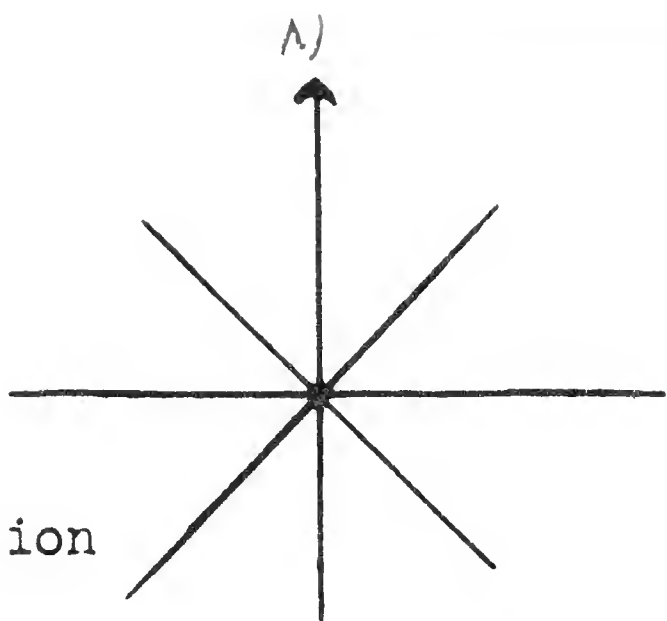
Pg. # 1

SPECIMEN
or

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
0607					Sunrise
0615					begin obs.
0625	Pterod.	1	☉		Flying fish scarce
0637	JFP	1	SW		
0654	Leach's	1	☉		
0705	JFP	1	SW		div. line seen
0708	P. externa	1	SW		
0720					flying fish schools common now
0750					close obs.
0755					open
0800					Porpoise, sp. east 1
0810					stop for BT
0817	WRSP	1	☉		resume N. course @ full speed
0828	JFP	1	S		
0838	WRSP	1	☉		
0840	Shear/Pet	1	☉		
0900	P. ext.	1	SW		
0908	"	1	"		
0910	JFP	1			ON H ₂ O
0911	"	1	SW		
0917	"	1	☉		
0928	WWP	1	SW		
0937	JFP	1			on H ₂ O
1030					stop for oceanography
1300					resume OBS. 5 knots north
1340	JFP	1	S		
1340					resume full speed
1545	JFP	1	SW		
1550					stop for oceanography station, close observations
1815					SUNSET

Total birds 18
hours: 6-35 min

Ship
Direction



R.V. JORDAN: EHSTROPAC 50

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

Date 1 November 1967

Pg. # 1

SPECIMEN

or

TIME SPECIES # DIR. BAND NO. REMARKS

0613 ————— sunrise, begin obs

0637 shear/Pet 1 SW
0642 WWP 1 SW distant

0655 P. externa 1 SW
0706 Long. t or Parasitic J 1 SW
0717 Leach's P 1 light phase

0720 WRSP 2 div. line seen

0723 JFP 2 SW
0723 P. ext 2 SW
0725 Leach's P 1

0725 JFP 1 div. line seen

0728 " 1 SW

0728 WRSP 1 SW

0730 —————

0750 ————— close observations resume

0759 Jaeger sp 1 NW

0800 —————

0801 P. ext. 1 SW stop for BT

0810 ————— underway again

0814 P. ext. 1 SW

0820 Leach's P 1 E

0840 " 1 div. line seen

0850 JFP 1 " " "

0901 Leach's 1 SW

0910 JFP 1 div. line seen

0915 Leach's 1 NE

0924 WWP 1 E div. line seen

0928 Leach's 1 SW

0944 WWP 1 SW

0950 WRSP 1

0953 " 1

1004 " 1

1006 " 4

Parasit 1

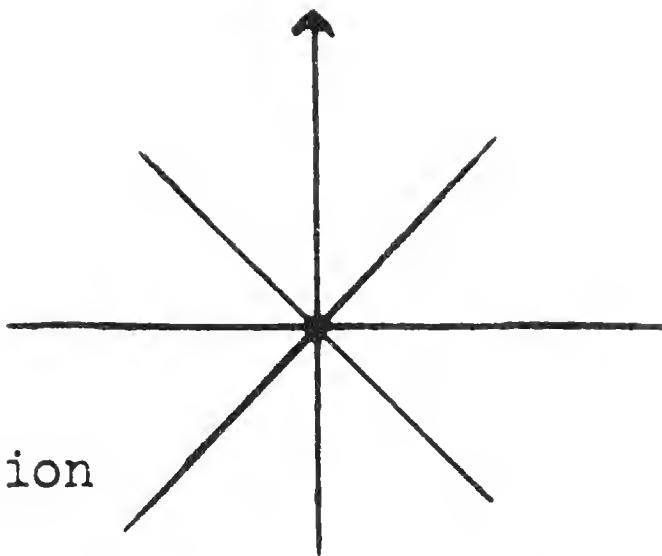
Jaeger 1

1026 JFP 1 chasing WRSP Light ph

1030 —————

STOP FOR OCEAN. STATION - close obs.

Ship
Direction



SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

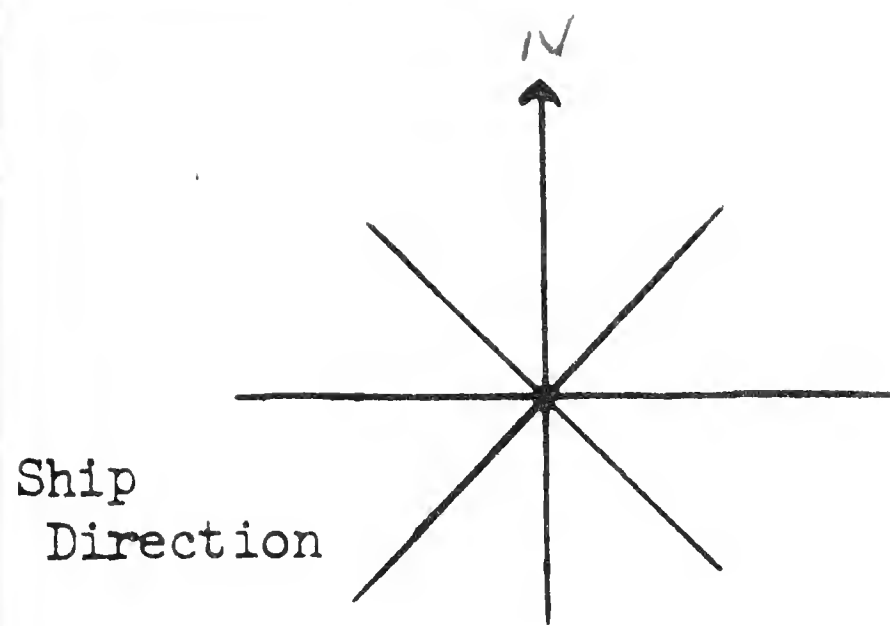
SPECIMEN
or

Date 1 Nov 67
Pg. # 2

TIME SPECIES # DIR. BAND NO. REMARKS

1250					resume observations 5 KNTS N
1251	RTTB	1	⊙		SA.
1255	JFP	1	SW		
1335					
1355	JFP	1	SW		resume full speed
1415					
1417	JFP	1	SW		stop for BT
1425					resume full speed
1442	Pomarine Jaeger	1	SW		light phase
1452	P. externa	1	SW		
1518	Leach's P	1	⊙		div. line seen.
1528	JFP	1	SW		
1547	WRSP	3			into
1550					stop for ocean station
1815	SS				

Total birds: 47
hours: 7-20min



R/V Jordan
 East Pacific 50
 SMITHSONIAN INSTITUTION
 DIVISION OF BIRDS
 AT SEA DAILY LOG - E

OBSERVERS:

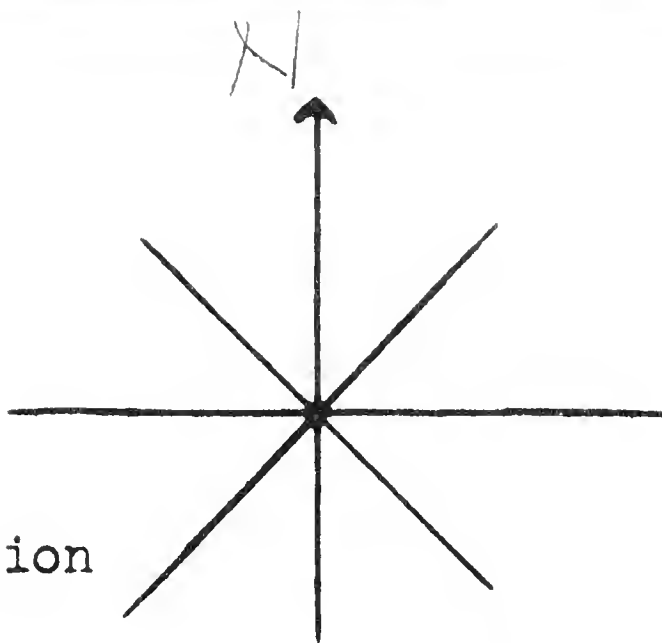
Date 02 Nov. 1967

Pg. # 1

SPECIMEN
 or

TIME SPECIES # DIR. BAND NO. REMARKS

	0615				SUNRISE, begin observations
	0650	Leach's P	1	☉	div. line seen, molt in primaries
	0705	P. externa	1		
	0705	Shear/Pet	2	☉	on H ₂ O
	0708	WRSP	1	☉	distant
	0708	JFP	1	NE	
	0727	WRSP	1	SW SE	
	0730				close obs.
	0800				stop for BT
	0810				resume full speed, BEGIN OBSERVATIONS
	0814	WRSP	1	NW	
FF	0817	Sooty Tern	12		Fairly distant
		Shear/Pet	75		
	0830	Sooty Tern	25		4 adults seen, rest U many with fresh plumage.
		JFP	25		
		P. externa	25		
		WWP	1		
		L-T Targ	1		light
		Photo sp	200		
		Shear/pet	75		All Along current rip which was out-west
		WRSP	25		
	0835	JFP	6	☉	
	37	"	10	☉	
	0840	JFP	4	☉	STARTED getting flying fish after crossing current line
	43	BRWWP	1	☉	
		JFP	3	☉	
	45	JFP	5		
	0850	JFP	17		on H ₂ O
	0854	"	1		" photo taken (extachrome)
	0902	Pterodap	6	☉	" " " "
	0912	WRSP	1	☉	on H ₂ O distant
FF	0917	Soot Tern	7		distant
		Shear/pet	4		
	0918	JFP	2		on H ₂ O
	19	"	2		"



Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

Date 02 Nov '67

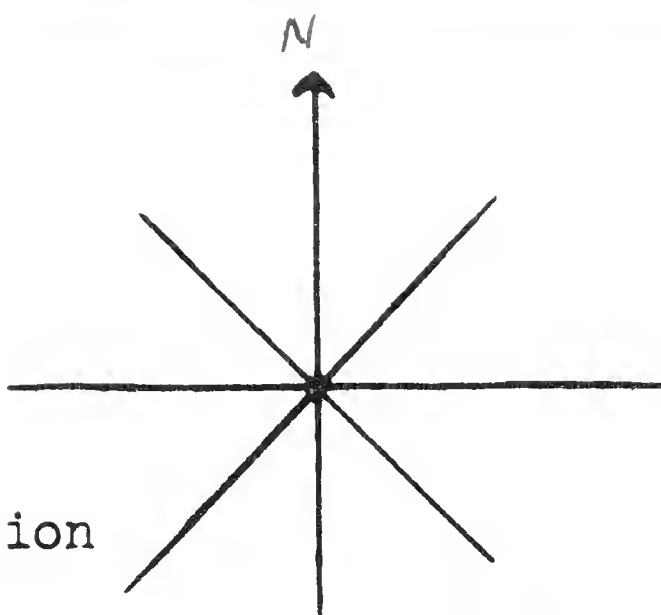
Pg. # 2

SPECIMEN
or

TIME SPECIES # DIR. BAND NO. REMARKS

	0924	JFP	4			on #20 (Photo)
	0925	"	3			"
	0931	WWP	1			"
	0935	P. externa	1	SW		
	0940	WRSP	1			
	42	P. externa	1			
	0945	Wils/Harc	1	SW		
	1005	Leach's	1	E		Very high numbers of Flying fish
	1013	P. ext.	1			close: seen well, very white rump, no dividing line.
	1013	Phoenix/Aliti	1			div. line seen.
FF	1025	Soot. Tern	30			looked like all ad. (poor light)
		Wedgetail	5±2			
		P. externa	15±5			
		Shear/pet	20			5 schools of Flying fish jumping
		Bird sp.	2			10' manta seen
	1030	JFP	2			
	1030	STOP for oceanography station				
	1330					resume observations headed N @ 5 knts.
	1340	JFP	3			
	1350	JFP	1			
	1400	"	2			
	1400	Leach's	1			
	1412	"	1			
	1415					
	1415	Wils/Harc.	2	N		stop for BT
	1430					
	1436	RTTB	1			resume course.
	1440	Leach's P	1			following
	1447	JFP	1			div. line seen
	1452	Wils/Harc.	1	SW		
	1455	Pterod sp	1	E		(Photo)
	1456	JFP	1	NE		
	1530	WRSP	1			
	1536	P. externa	1			
	1550					stop for ocean station
						Sunrise at 1815

Total Birds 423
Total miles
Total hours 6-25 min



Ship
Direction

R/V JORDAN: EASTROPAC 50

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

HARRINGTON

Date 03 NOVEMBER 1967

Pg. # 1

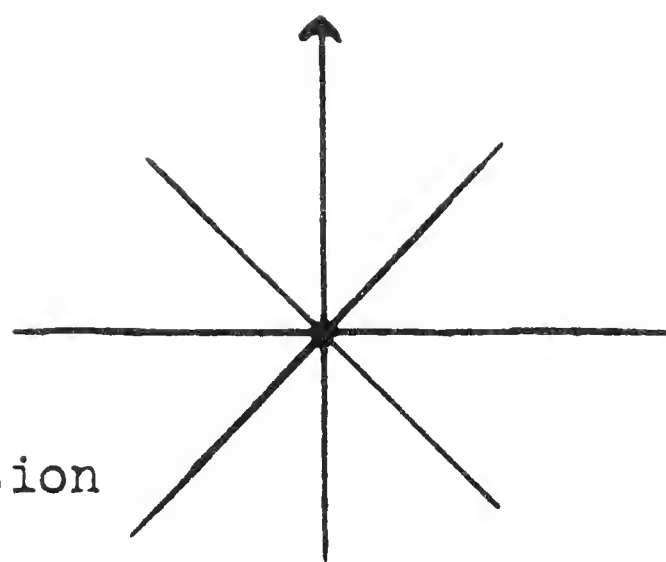
SPECIMEN

or

TIME SPECIES # DIR. BAND NO. REMARKS

0618					SUNRISE: BEGIN OBSERVATIONS
0628	shear/pet	1	☉		
0650	JFP	1	☉		
0730					
0750					close obs.
0810					Resume "
1015	Tern or Jaeger	1	NW		
	RTTB	3	☉		
1023	WRSP				sub adts, followed briefly: 2 collected: molt present
1030	JFP	2	☉		
1030		1	☉		on H ₂ O
1215					Stop for Oceanography station
1230					Resume North course @ 5 knots
1230					" observations
1305					1 sub RTTB, prob. same as 1015
1335	RTTB	1			Resume full speed.
1350	WTS	2			on H ₂ O, looked like an adult
	Sooty/slender	1			dark
	JFP	6			sitting on H ₂ O
1355	JFP	3	☉		
1400					
1402	JFP	1	☉		
1428	Sooty/slender	1	SE		beginning to see occasional schools of flying fish
1440	Pterod sp	1	W		
1517	WWP	1	SE		
1540	Leach's P	1	☉		
1540	Wedgetail	1	☉		div. line seen
1550	WRSP	1	SE		dark phase, molt in primaries
1550					CLOSE OBSERVATIONS
1745					Resume close full speed & observations
1805					Sunset, close observations

Total hours 7-30 min



Ship
Direction

JORDAN - EASTROPAC
SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

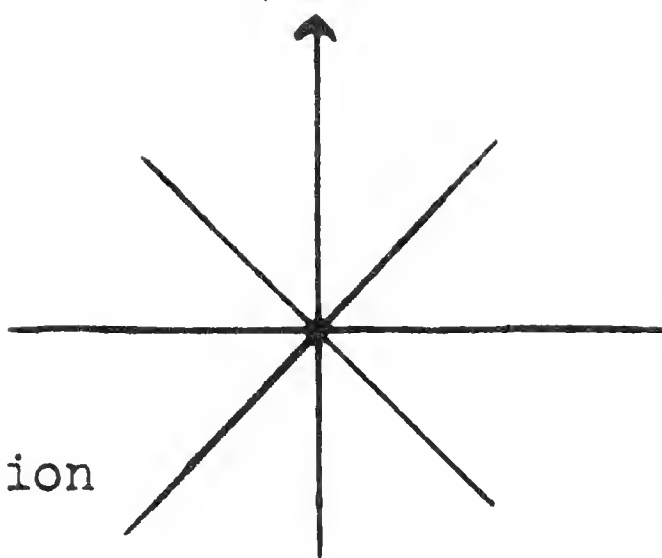
Date 04 NOV. 1967
Pg. # 1

SPECIMEN
or

J = Floatsome (Report)

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
0740					begin obs.
0740	RTTB	3			
0754	JFP	1	⊙		Subadults: one dove & caught a flying fish
0758	Leach's	1	⊙		
0800	Sooty T.	1	⊙		div. line seen
0801	RTTB	1	⊙		heavily speckl. subadult, heavy molt
0818					SA, Now 4 following
0842	Wedgetail	1	⊙		large martin or sailfish: should have been on sonar
0900	RTTB	1			light
0920	Pterod. ext ^{err}	1	SW		on H ₂ O,
0926	Wedgetail	1	⊙		
0929	"	1	⊙		light phase
0932	JFP	1	⊙		"
0958	Wedgetail	2	⊙		light.
	P. creatopus	1	⊙		
	JFP	1	⊙		
1006	RTTB	1	⊙		
1015	Sooty Tern	2	⊙		Follow, SA
1030			⊙		either SA or Ad
1030	WRSP	1	W		stop for oceanography
1030	Wedgetail	1	⊙		dark
1300					
1328	WRSP	1	⊙		Resume observations, change course to 030 555 ⁵
1328	Wedgetail	1	⊙		
1336	"	1	⊙		dark
1341	JFP	1	⊙		light 2 sea turtles (Not Green sea)
44	"	1	⊙		
45			⊙		
55	WRSP	1	⊙		resume full speed
1402	S/S Indr bill	1	SE		
1404	WRSP	1	E		
1406	"	1	⊙		
1418	"	1	S		
1428	Leach's	1	⊙		

NNE

Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

SPECIMEN
or

Date 04 Nov '67
Pg. # 2

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
1445	shear/pet	1	☉		
1445					squall line ahead
1452	Leach's	2	☉		
1456	P. externa	1	☉		ENTER SQUALL
1458	shear/Pet	1	☉		edge of rain squall
1503	WRSP	1	SN		in squall
1510	Leach's P	1	N		in rain
1522	"	1	NW		" "
1530	"	1	NW		" "
1535	"	1			OUT of RAIN SQUALL
1544	"	1	NE		
1549	Storm Pet sp	1	☉		distant
1550					stop for oceanography station, close observations
1800					sunset

Total hours: 5-40 min

23.5

$$\begin{array}{r}
 16.00 \overline{) 2204600} \\
 \underline{1600} \\
 6046 \\
 \underline{4800} \\
 12460
 \end{array}$$

$$\frac{9}{10}$$

$$\frac{90}{100}$$

$$\begin{array}{r}
 35.2736 \overline{) 1000.000000} \\
 \underline{707472} \\
 2925280 \\
 \underline{2821888} \\
 1033920 \\
 \underline{707472} \\
 3264480 \\
 \underline{3174624} \\
 91856
 \end{array}$$

$$2.2046$$

$$16$$

$$\begin{array}{r}
 132276 \\
 \underline{22046} \\
 352736
 \end{array}$$

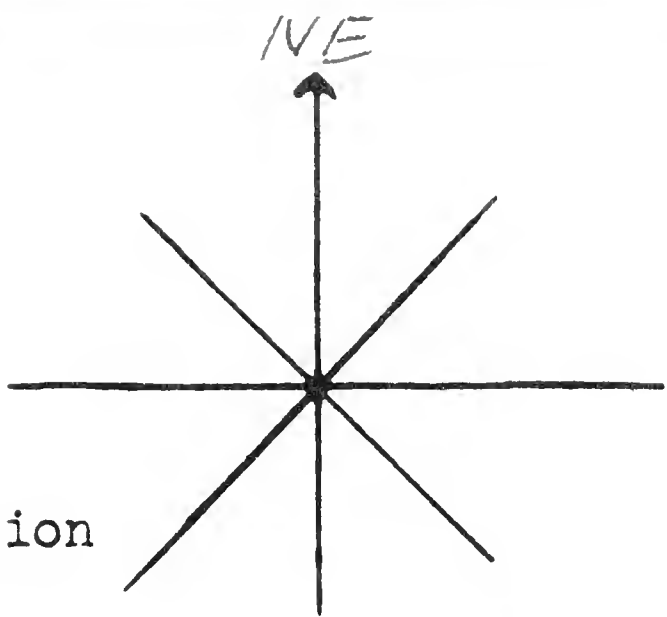
$$1 \text{ kilo} = 352736 \text{ ounces}$$

$$1000 \text{ gms} = 352736 \text{ ounces}$$

$$1 \text{ gm} = \frac{352736}{1000}$$

$$28.29 \text{ gms to } 03.$$

$$\begin{array}{r}
 35.27 \\
 \underline{28.29} \\
 32743 \\
 \underline{7044} \\
 28216 \\
 \underline{7044} \\
 9968783
 \end{array}$$



Ship
Direction

R.V. JORDAN: EASTROPAC
SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

Date 05 NOV 1967
Pg. # 1

SPECIMEN
or

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
0615					SUNRISE
0630					Begin observations
0637	Shear/Pet	1	☉		
0640	Puffinus puffinus	2	☉		
0646	WRSP	1	N		
0650	JFP	1	☉		
0714	Cook's Petrel	1	☉		
0723	P. puffinus	2			on H ₂ O
FF 0730	Frig. sp	1	☉		♀
	BFB	1	☉		imm
	JFP	50±10			
	Wedgetail	20±5			light
	"	5±2			dark
	Small Pterod	5			
	Sooty Tern	25±5			All Adults.
0730					
0740					CLOSE OBSERVATIONS
F 0746	Leach Pet	2			None "
	WRSP	6			on H ₂ O
0750	Shear/Pet	2	☉		
0755	P. externa	1	☉		
0757	JFP	1	☉		
0800	"	1	☉		
0810	"	1	☉		
0811	"	1	☉		
0812	Dark-rump Petrel	2	N		
0822	JFP	1	N		molt in primaries
0823	Wedgetail	2	N		
0835	JFP	1	N		light
0835	Wedgetail	1	☉		
0845	JFP	1	N		light
0910	JFP P.ext.	1	NW		
0910	JFP	1	☉		
0923	P.ext.	1	N		
0927	Blue-face Booby	1	SW		
			☉		circled ship, adult
FF 0933	Soot T	4			
	P. EXT	3	☉		ad.

(pat side)
Fish ca 2' seen jumping: looked like skipjack.

NE (045°)

Ship
DirectionSMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

Harrington

Date 05 Nov '67

Pg. # 2

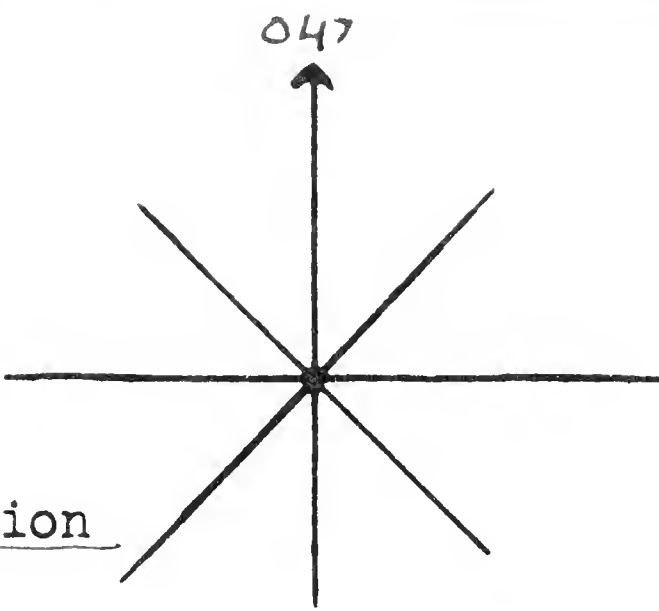
SPECIMEN

or

DIR. BAND NO. REMARKS

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
0950	Wedgetail	1	⊙		dark
1000	WWP	1			
1010	Leach's	1	⊙		on H ₂ O: Much lighter underwings than those
1011	Blue Face B.	1	⊙		I have had to the south. Head-back contrast
F 1013	WRSP	1	⊙		was not as great, black on side of chest not as
	Leach's	(17) (2)			pronounced.
TF 1015	Sooty Tern	13	NE		Div. line seen, molt in prim.
1015	Kermadec	1	⊙		imm, circled ship
1027	RTTB	1			Sitting on H ₂ O
1028	JFP	1			all adult
1030		1	⊙		light
1220					SA following
1245					stop, close observ.
1307	RTTB	1			imm Blue faced Booby seen while on station.
1320					RESUME OBS., 5 KNOTS NE
1335	WRSP	(2)	N		SA following (possibly same as 1027)
1355	Leach's	2	N		resume full speed
	WRSP	2	"		
1358	WRSP	10	⊙		going along w/ship.
1418	Leach's	1	⊙		molt in primaries
1515	WRSP	1	⊙		
1520	RTTB	1	⊙		
1530	P. creatopus	1	⊙		
1535	Leach's WRSP	1	SE		
1540	Blue-face Booby	1	SE		sub. following, molt in primaries
1550					stop for OCEANOGRAPHY STATION
1755					SUNSET

Total hrs 7-20



Ship
Direction

R/V JORDAN : EASTROPAC 50
SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

HARRINGTON

Date 06 NOVEMBER 1967

Pg. # 1

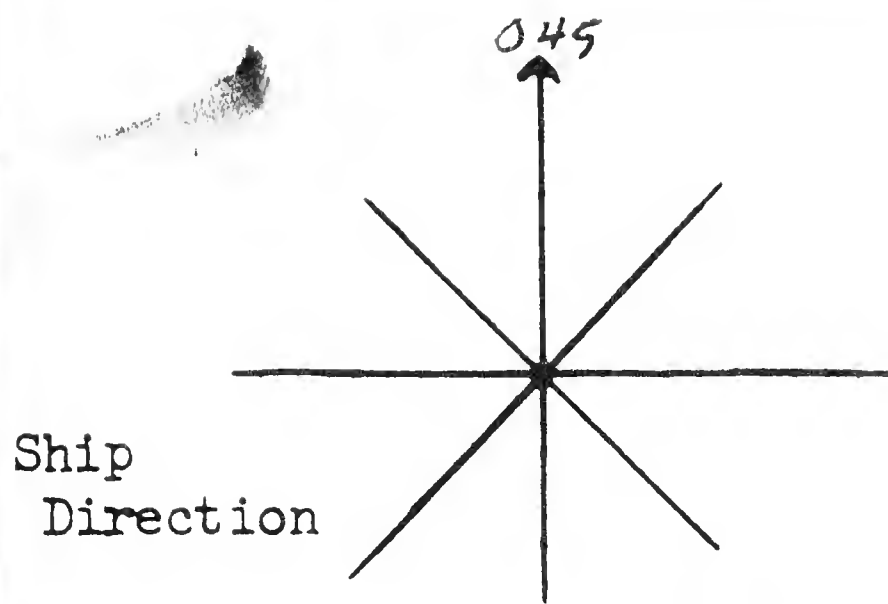
SPECIMEN

or

TIME SPECIES # DIR. BAND NO. REMARKS

0612	---	---	---	---	SUNRISE, begin observations
0630	Blue-face Booby	1			SA following, molt in primaries
0647	Puffinus put	1	⊙		
0658	Wedgetail	1	NE		light phase
0708	Sooty Shear	1	S/E		quite sure of I.D.
0725	shear/Pet	1	NE		
0730					CLOSE OBSERV.
0750					resume "
0758					sea turtle
0807	Blue-face B.	1			SA following, almost adult plumage. Dove caught a flying fish. molt in primaries
0850	Sooty T	2	NE	ad	
0855					Just before diving each time it gave a squack
0925	Leach's	1	W		whale 1 - tall, thin blow: like humpback/Friback
0928	Sooty T	2	NE		
0938	Leach's Pet	3	NE		ad: low to water, travelling
	WRSP	1	NE		
1007	WRSP	1	⊙		
1030					
1320					stop for oceanography station, close observations.
1330	Blue-foot Booby	2	SE		resume observations, 5 knots NE
1335					resume full speed
1358	WRSP	1	⊙		
1400	Sooty Tern	2	E		Ad. low to H ₂ O, travelling
1425	WRSP	2	⊙		over small natural slick
1535	"	1	⊙		
1550					stop for oceanography station: close obs.
1720	Barn Swallow	1			landed on radio antenna; apparently an immature judging by short outer tail feathers
1739					Sunset, still on station.

Total hours: 6-40 min



Ship
Direction

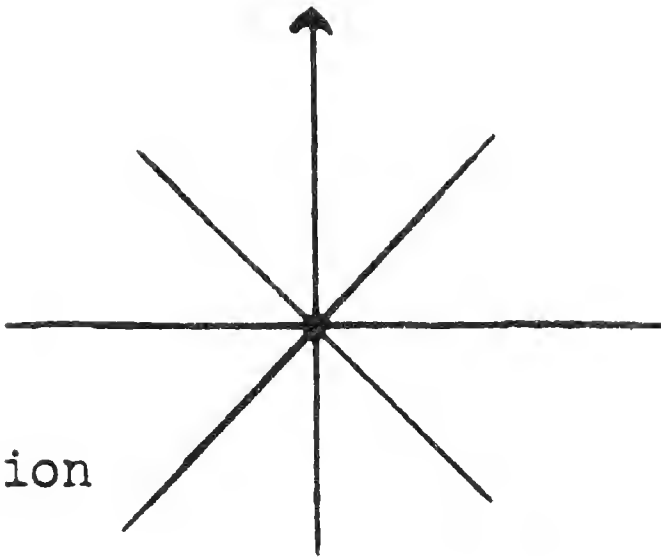
SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

Date 07 November 1967
Pg. # 1

SPECIMEN
or

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
0610					sunrise, open observations
0620	Taeger or Gull	2	SE		distant
0632	Pomarine U	1	SE		imm light phase
0644	Wedge tail	1	NE		light phase
0652	"	1	N		"
0704	N. Phalarope	8	SE		winter plum.
0710	Wedgetail	1	S		light phase
0723	Sabine's Gull	1	SE		imm
0730					close obs.
0750					resume " winter plum
0752	N. Phal	3	E		
0800	Sabine Gulls	2	SE		
0802	R. foot Boob	1	E		imm
0805	"	1	NE		
0812	N. Phal	4	SE		winter plum
0823	"	2	SE		" "
0837					2 whales seen by crew member
0848	R-F-Booby	1	⊙		imm
0910	Red Phal	1	⊙		
0915	Storm Pet	1	SE		slight smaller or same size as Leach, dark rump
0926	N. Phal	1			tail feathers
1005	P. puffinus	1	⊙		on H ₂ O, winter plum
1011					
1028	N. Phal	1	SE		sea turtle, loggerhead?
1030					wint plum
1300					close obs., stop for station
1317					resume observations at 5 knots steering 055
FF 1330	Sooty T	14			sea turtle
	Brown Boob	3			adults, very long tail feathers
	RF Boob	1			
	P. puffinus	4			imm
1340					resume full speed
1350	Sooty T	2	SE		ad., 1 w/ long tail feather
1403	Brown	3			on a log
FF 1411	Soot T	14			ad
	P. puffinus	5			



Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

Date 07 Nov '67

Pg. # 2

SPECIMEN

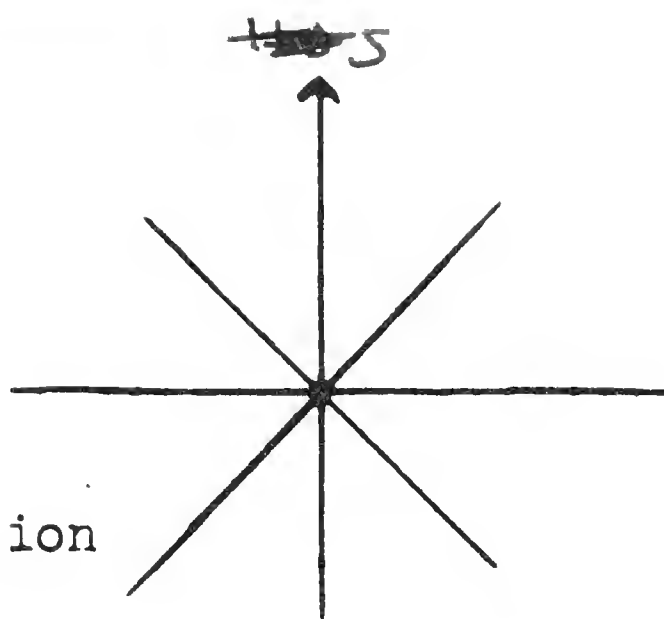
or

TIME SPECIES # DIR. BAND NO. REMARKS

	1415	Soot T	2	E		ad
FF	1419	"	19			"
		Booby sp	1			
		Tern sp	3			
FF	1422	S. Tern	25			ad
		Black Tern	1			
		Tern sp	4			
	1455	S. Tern	2	N		ad
FF	1510	"	8			ad
	1520	"	3			ad
		P. puffinus	1			ad feeding
	1521	"	1			
FF	1528	Sooty T	28			on H ₂ O
FF	1547	Soot T	50±10			ad
		Booby sp	10±2			
		Booby sp	8			
		shear/pet	12			} turn predatory fish jumping
FF	1550	sooty T	9			ad feeding
	1550	Pom Jaeg	1			
						stop for oceanography station.
	1715					SUNSET:

Total hours: 6 - 50 min.

Ship
Direction



SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

Date 11 Nov 1967
Pg. # 1

SPECIMEN
or

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
1245					Begin obs. 18 miles off Acapulco
1246	N. Phal	1	SE		
1248	Br. Booby	1			
1257	"	1			sitting on log
1308	"	1			" " "
1309	RBTB	1			" " " imm.
1309	Pom. J.	1			
1314	Black/mark	1			ad light, chasing RBTB which caught a fish
	Storm Pet	1	SE		
1320	Boob. sp	1	NW		
1320	Tern "	1	"		
1321	storm Pet	1	"		
1322	Tern sp	1	S		
1328	P. puffinus	2			
1340	Br. booby	1			ad on log
1350	"	2			
1359	Pom. Jaeg	1			on log
1400					light ph, followed briefly, molt in prim.
1415					Stop for BT
1420	Sabine Gull	1			Underway again
1422	B. boob	1			on H ₂ O
1424	Sabine Gull	2			on log
1435	Tern or Gull	2	SE		
1435	N. Phal	2			on H ₂ O
1440	Jaeger sp	1			chasing Tern
1443	N. Phal	1			
1449	B Booby	2			on H ₂ O
1450	B Booby	4			on log ad or 2A
1500	"	2			" " ad " "
1505	N. Phal	1			" " " " "
1505	Barn swallow	1			" "
1507	N Phal	1			following
"	Tern sp.	1			on H ₂ O
1516	B. Booby	1	NW		
1521	Sooty Tern	2			on log
1525	N Phal	1	N		
1530	"	1	S		



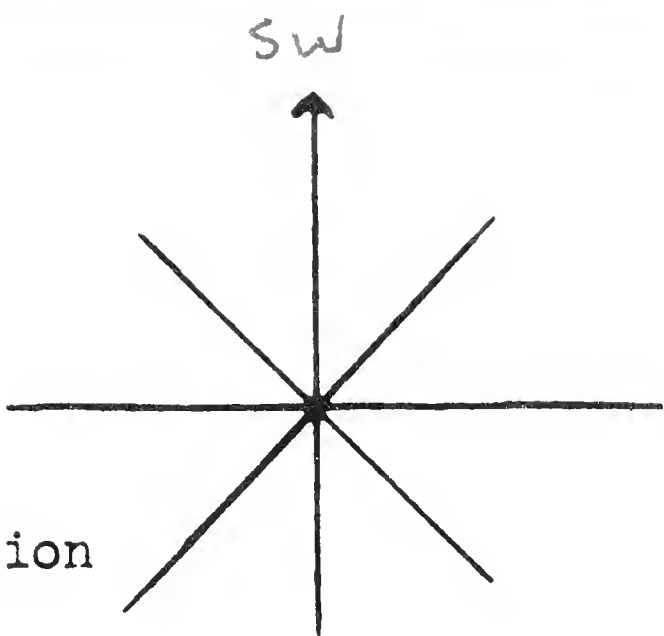
SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

[Illegible handwritten notes]

Date 11 Nov '67
Pg. # 2

SPECIMEN
or

Total hours: 3 - 15 min



Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

Date 12 NOVEMBER 1967
Pg. # 1

SPECIMEN
or

TIME SPECIES # DIR. BAND NO. REMARKS

0555 - - - - - SUNRISE, begin obs

0610 Pomarine 1 E light phase

DRSP = Storm Petrel
w/ dark rump

0635 " 1 SE " "

0640 Blue-foot B. 1 } ad
Br. Booby 1 } sitting on log

changed to Blue-faced after checking
reference 11/12/67 B. A. H.

0646 Bl.-foot Boob. 1 imm

0650 Sooty T. 3 ~~SRSP~~

0654 storm Pet sp 1 ad. searching

0656 Leach's sp 1 distant.

0658 WRSP 2 div. line seen

0705 WRSP 2 on H₂O } together
DRSP 1 " "

0707 Pom. Jaeg 1 light, on H₂O, intermediate

0707 WRSP 1 distant

0708 Jaeg. sp 1 light, molt in primaries.

0711 P. om Jaeg 1 close obs.

0720 DRSP 1 resume "

0730 Pom. Jaeg 1 light, on H₂O

0740 Phal. sp 2 wint plum

0852 WRSP 1 on H₂O

0903 wils/Harc. 1 photo (1st frame HS Ektachrome)

0903 WRSP 1 seen well: Broad, very white rump patch, NO div. line

0904 N. Phal 1 on H₂O, wint. plum.

0910 Leach's 1 div. line seen

0922 R. Phal 3 SE } all together, all wint plum.

0925 N Phal 1 SE }
Pom. Jaeg 1 NW light ph., molt in prim.

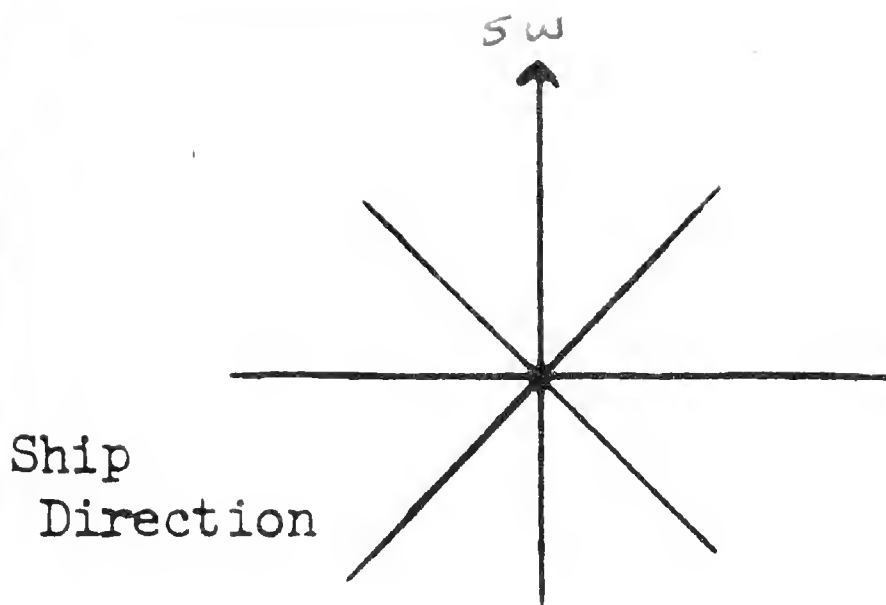
0955 Storm Pet 1 distant

1000 WRSP 5 feeding

1000 Pom T 1 light ph

1025 storm Pet 1 diet.

1030 stop for ocean station: close obs.



Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

Date 12 Nov. 1967

Pg. # 2

SPECIMEN

OR

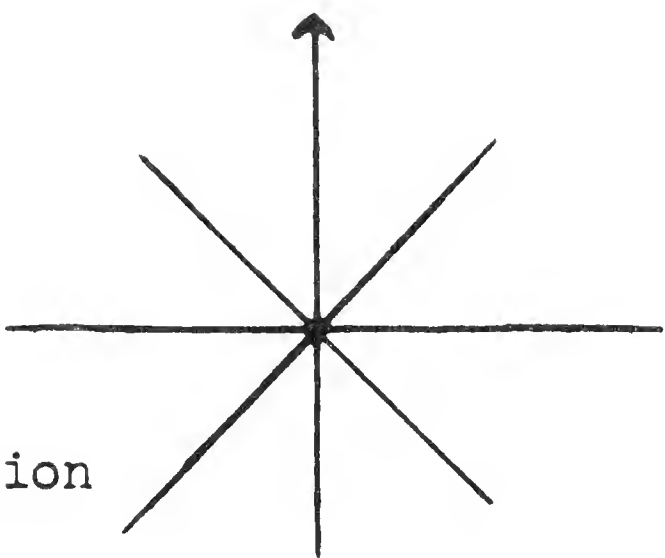
DIR. BAND NO. REMARKS

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
1230					resume obs 5 knots SW
1231	Barn Swallow	1	⊙		photo; coll. ad 1445; emaciated
1233	RFB	1	⊙		all dark
1300					sea turtle
1305					resume full speed
1315	RFB	1	SE		all dark
1345	RFB	2			on H ₂ O next to log: dark ph. ad.
1355	"	2			" dark (photo of one)
1420	WRSP	4	⊙		
1500	RFB	1	⊙		all dark
1506	soot/slendr	1	W		defunct
1530	RFB	1			
1535	Taeg. sp	1	⊙		all dark; dark bill; molt in primaries imm
1550			SE		
1723					stop for ocean station: close obs
					SUNSET

via happy river
Pacific 87

Total hours 6.7 - 25 min

Ship
Direction



R.V. JORDAN: EASTROPAC 50
SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

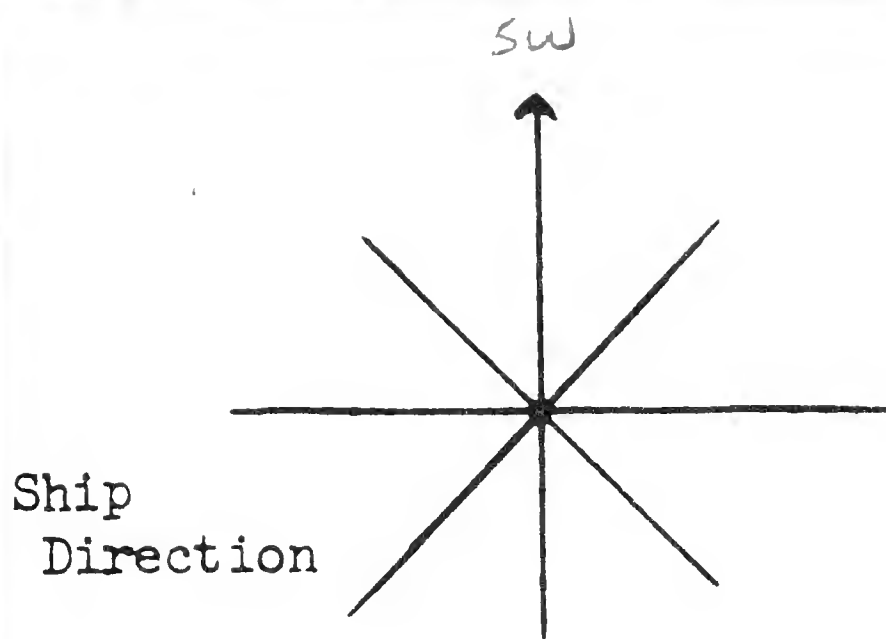
Date 13 NOVEMBER 1967
Pg. # 1

SPECIMEN

or

TIME SPECIES # DIR. BAND NO. REMARKS

0610					Begin obs. 0610 - Sunrise
0620					
0625	Wedget	1	⊙		intermediate
0625	Bl. face B	1	⊙		SA
0627	RFB	2	IE		all dark
0632	"	4	W		"
0633	RFB	1			
	Bl. face B	1	⊙		
0635	P. puffinus	1	W		SA
0644	WRSP	3	SE		
0658	RFB	36	⊙		all dark, age?
0658	Pom Jaeg	1	⊙		interm.
0659	Wedgetail	1	⊙ W		light
0730					
0755					close obs:
0756	Wedget.	3	NW		resume
0759	WRSP	1	⊙		light
0802	RFB	1	⊙		
0810	WRSP	2	⊙		SA (by bill color), molt in primaries
0811	Wedget	1	⊙		
0813	"	1	W		light
0816	RBTB	2			"
0818	Pom Jaeg	1	S		sitting on H ₂ O, Long tail-feather
0828	WRSP	1	SE		light
0834	Wedgetail	2	⊙		
0844	WRSP	1	⊙		light
0850	RFB	1	⊙		
0850	WRSP	1	SE		molt in prim.
0851	Leach's	1	⊙		" " " , div. line seen
0858	WRSP	1	⊙		
0858	Jaeg sp	1	⊙		
0905	Leach's	1	NW		molt in prim, div. line seen
0905	RFB	1	⊙		
0910	WRSP	1	⊙		all dark, dark bill
0912	Pom. Jaeg.	1	W		molt in prim.
0920	Black/mark	1	⊙		light phase
0920	RFB	5	⊙		



R/V JORDAN: EASTROPAC
SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

B. Harrington only

Date 13 Nov 1967

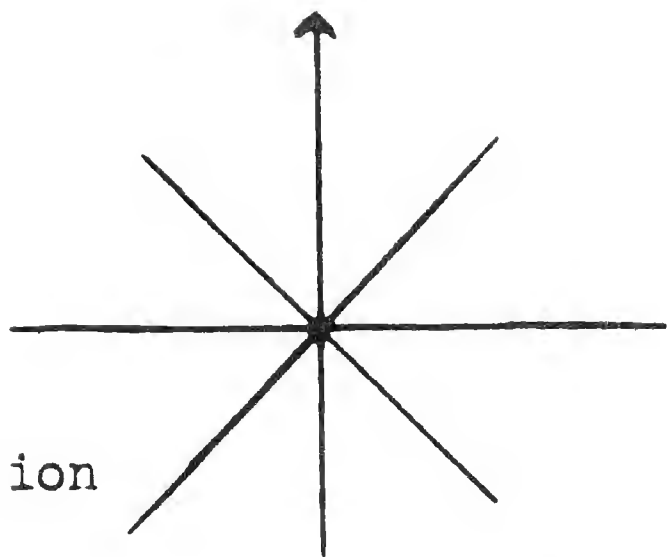
Pg. # 2

SPECIMEN

or

TIME SPECIES # DIR. BAND NO. REMARKS

0924	Leach's	1	☉	—	div. line seen. molt in Prim
0925	"	1	☉	—	" " "
27	wedge	2	☉	—	light
27	WRSP	B	☉	—	wrote edge of rain sq.
30	Black/mark	1	☉	—	" " " "
30	Shear	1	—	—	large, black " " " "
32	WTS	5	☉	—	light " " " "
35	ENTER RAIN (heavy)	see note	→	—	Total of 11 RFB had been following; when we came to rain squall they circled upwards until 1 lost sight (ca 3000') which was when the ship entered the squall.
35	RFB	1	—	—	in squall, sat on H ₂ O
0942	WRSP	1	S	—	in squall
1000	"	1	☉	—	" "
1006	"	1	☉	—	" "
1015	Leach's	1	☉	—	" "
1017	"	1	☉	—	" "
1018	WTS	1	☉	—	" " molt in prim.
1019	WRSP	3	☉	—	" " " " " Light Phase c
1024	Leach's	2	☉	—	" " div. line seen
1024	WRSP	2	☉	—	" " "
1025					
1030					Still raining, but a lot lighter now
1215	Wedgetail	1	☉	—	CLOSE OBSERVATIONS: STOP for oceanography station
1223	Wedgetail	1	SW	—	light → Begin obs. SKNTS South
1227	Pom J	1	SW	—	light, molt in primaries
1239	Wedgetail	1	W	—	light
	"	1	W	—	dark
1250	Wedgetail	1	W	—	
1253	Shear/Pet	2	W	—	
1300	P. puffinus	1	SW	—	
1310					Resume full speed
1316					COURSE is NOW SOUTH (since (215))
1332	Leach's P	1	☉	—	black div. line on rump seen
1337	WRSP	1	☉	—	
1403	Leach's	1	S	—	div. line seen
1408	Pom. J	1	SW	—	intermediate
1412	Leach's	1	SE	—	div line seen



Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

Date 13 Nov '67

Pg. # 3

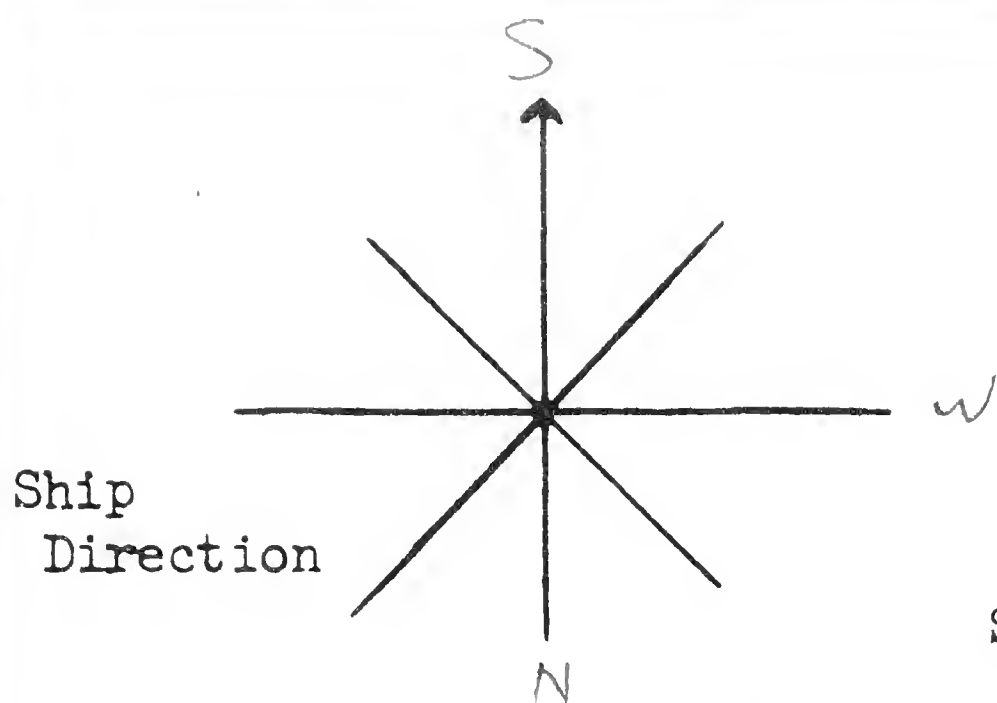
SPECIMEN

or

TIME SPECIES # DIR. BAND NO. REMARKS

	1418	WRSP	4			sitting on H ₂ O
		Leach's	3			" " " div line seen
	1420	WRSP	1	⊙		
	1427	"	1	⊙		
	1433	Leach's	2	⊙		div line seen, on H ₂ O
	1441	Pale-foot Shear	2	SE		
	1444	Wedgetail	2	SE		light
SF {	1447	Wedget.	10	⊙		light
		"	2	⊙		dark
	1452	Pom. Jaeg	2	SE		1 dark, 1 light.
	1508	WRSP	1	⊙		
	1516	soot/s/d	1	SE		
{	1518	Wedgetail	1	⊙		light
	1518	"	1	⊙		dark
	1538	WRSP	1	⊙		
	1545	Pom. Jaeg	1	SE		light
	1545	shear/Pet	1	SW		
	1547	Wedgetail	1	SW		light.
	48	RFB	1	⊙		SA dark
	1600					stop for oceanography station; close obs.

Total hours 7 - 30 min



Ship
Direction

EASTROPAC 50
SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

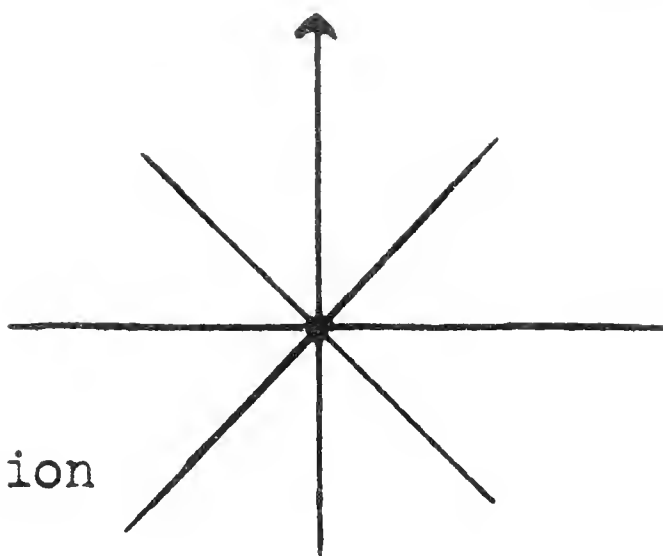
OBSERVERS:

Date 14 Nov 1967
Pg. # 1

SPECIMEN
or

TIME SPECIES # DIR. BAND NO. REMARKS

0630					Begin obs: in rain
0639	WRSP	2	☉		in rain
0643	"	1	"		" "
0715	Leach's	1	☉		" ", div. line seen
0720	WRSP	1	☉		
0724	Leach's	1	SE		div line seen
0730					Close observations
0745					Resume "
0803	WRSP	3	☉		
0818	WRSP	1	☉		
0823	"	1	☉		
0824	"	3			on H ₂ O
0829	Leach's	1	☉		div. line seen
0840	"	1	SE		" " "
0844	Wedgetail	1	☉		light
0853	"	1	NW		dark
0855	WRSP	2			on H ₂ O
0901	Wedgetail	2	SW		light
0910	Wedgetail	3	SW		light, at edge of rain
0910	X-mas I shear	1	SW		" " " "
0910	WRSP	2	☉		" " " "
0918	Leach's	1	☉		div. line seen, molt in primaries
0938	Red Phal	1			on H ₂ O, wint. plum., seen well
0947	Leach's	1	☉		div. line seen.
0950	shear/Pet	1	S		poor light
1008	Wedgetail	1	W		light phase
1020	Leach's	1	☉		div. line seen
1021	R. Phal	1	S		wint plum
1026	WRSP	1	☉		poor wint/hare
	Leach's	1	☉		div line seen
1030	Leach's	1	☉		div. line seen
1030					stop for oceanography station



Ship
Direction

EASTROPAC 50
SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

Date 14 Nov. 1967

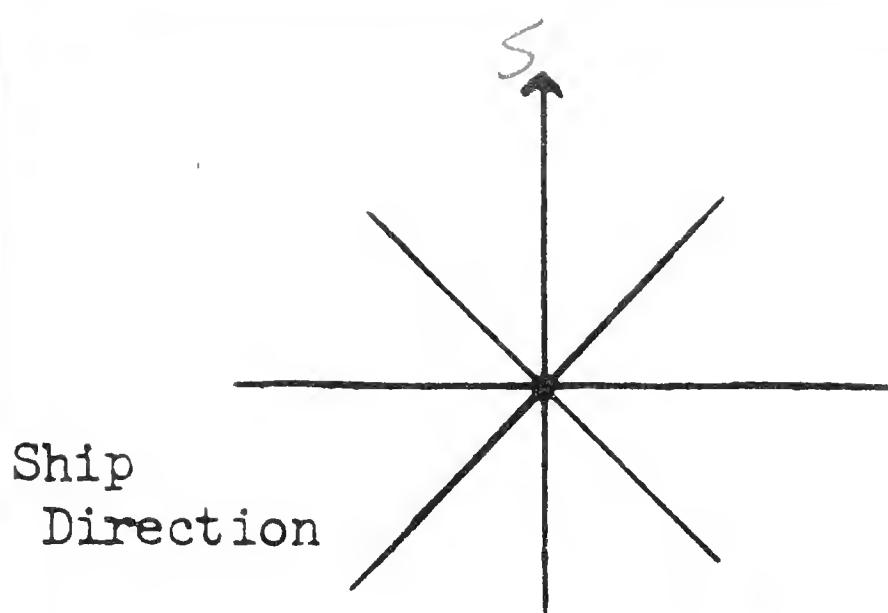
Pg.# 2

SPECIMEN
or

TIME SPECIES # DIR. BAND NO. REMARKS

	1250				Resume obs.
	1251	Wedgetail	1	SW	light
	1304	WRSP	1	⊙	
	1307	Wedgetail	1	W	light
	1314	"	1	SW	dark
	1317	"	1	SW	"
	1318	Leach's	1	S	Div. line seen, feeding
{	25	Leach's	1	⊙	" " " , feeding
	25	WRSP	1	⊙	
	1342	WRSP	1	NE	
{	1358	Leach's	1	⊙	div. line seen
	"	Wils/Hawc	1	⊙	seen well
	1402	Leach	1	⊙	div. line seen
	1418	WRSP	1	⊙	
	1428	Storm Pet	1	⊙	
	1433	Wedgetail	1	⊙	light
	1436	Pom. Jaeg	1	⊙	light
	1444	B.F. Booby	1	S	SA
	1450	Wedgetail	1	W	light
{	1452	Sooty T	2	W	ad
		Sooty T	1	W	imm
	1453	Pom J	1	W	light ad
	1453	Wedgetail	1	W	light
	1457	"	3	⊙	"
SF	1530	Wedgetail	18	⊙	All light
	1530	Kermadec	1		light
	1530	WRSP	1	⊙	
	1532	Leach's	1	⊙	div. line seen
	1535	Pom Jaeg	5	SE	4 light, 1 dark
	1555	WRSP	1	⊙	
	1600				stop for oceanography stn.

Total hours 7 - 15 min.



Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

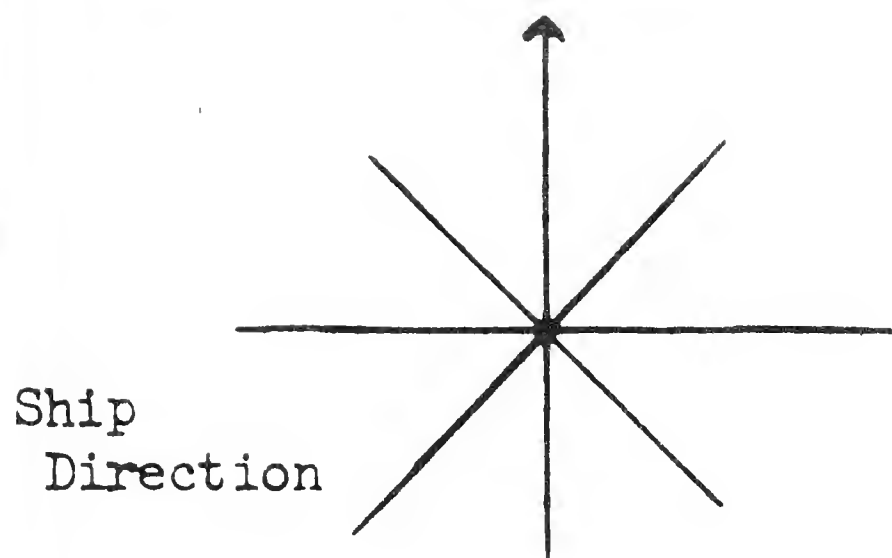
Date 15 Nov '67
Pg.# 1

SPECIMEN

or

TIME SPECIES # DIR. BAND NO. REMARKS

	0555				SUNRISE
	0610				begin obs
	0620	wedgetail	1	SE	
	0622	Leach's	1	⊙	light
	0627	WWP	2	SE	div. line seen
	0642	Leach	1	S	
	0643	Wedget.	1	E	div line seen
	0658	P. externa	1	⊙	light
	0707	Wedgetail	1	SE	
	0715	"	1	⊙	dark
	0724	Soot. Shear	1	SE	light, molt on inner secondaries
	0730				close: light underwing, bulky body
	0800				close obs
	0825	P. externa	1	⊙	resume
	0840	WRSP	1	⊙	
	0900	WWP	2	⊙	
	0901	Wils/Harc	1	⊙	
	0916	JFP	1		on H ₂ O
	0920	WWP WWP	1	⊙	
	0922	P. externa	1		
FF	0925	Soot T	100±20		on H ₂ O
		Shear/Pet	10±5		
		Jaeger	2		A contact on vertical sonar below the
	0934	WWP	1	⊙	plankton layer at same time looks like fish.
	0943	JFP	1	⊙	Flock was 1/2 mi to port
SE	0947	Sooty T	43		
		Sh/pet	2		
	1001	WRSP	1	⊙	moving south, possibly birds from 0925. These ^{log} ₄₇
	1002	Soot Shear	1	SE	did not were not travelling rapidly, but were steadily
	1007	JFP	1	⊙	going south.
	1015	WWP	2	⊙	seen well, white underwing, bulky body
	1027	Leach's	1	⊙	
					div. line seen.
	1030				stop for ocean station



R/V Jordan
 EASTROPAC 50
 SMITHSONIAN INSTITUTION
 DIVISION OF BIRDS
 AT SEA DAILY LOG - E

OBSERVERS:

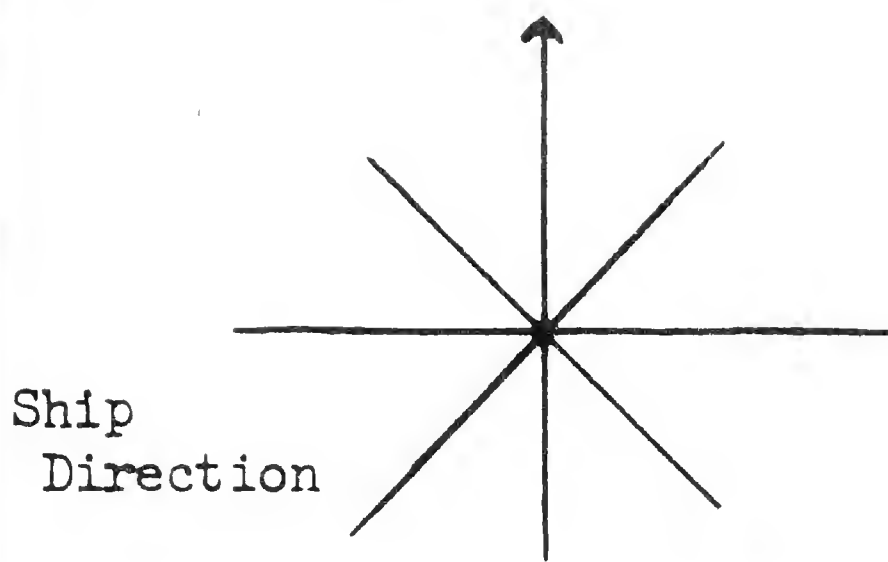
Harrington

Date 15 Nov '67
 Pg. # 2

SPECIMEN
 or

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
1300					RESUME OBSERVATIONS: 5 knots south
1329	Wedgetail	1	NIE		light phase
1335					Resume full speed.....
1338	storm P.	1	☉		distant
1342	Leach's	1	☉		black div. line seen, molt in primaries
1347	JFP	1	☉		
1405	WTS	1	☉		light
1405	WRSP	1	☉		
1410	wils/Harc/ Tethys	1	SE		
1420	shear/Pet	1	☉		
SF 1423	Sooty T	14			ad
	WTS	1	☉		dark
1426	WTS	2	☉		dark
1434	Storm Pet	2	☉		
1447	WRSP	1	☉		
1447	WWP	1	☉		
1454	Phoenix/ Tahitian	1	☉		
1506	wils/Harc/ Tethys	1	E		Very black, erratic flight, almost no pattern on upper wing; immaculate-white "rump", wing shape suggestive of chimney swift.
1517	Leach's	1	E		div. line seen
1531	"	2	☉		div. line seen
1545	WRSP	1	☉		
46	Leach's	1	☉		d L S
1600					stop for ocean station
1720					SUNSET
1740					

Total birds:
 miles:
 hours: 6-50 min



Ship
Direction

R/V JORDAN
EASTROPAC 50
SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

SPECIMEN

OR

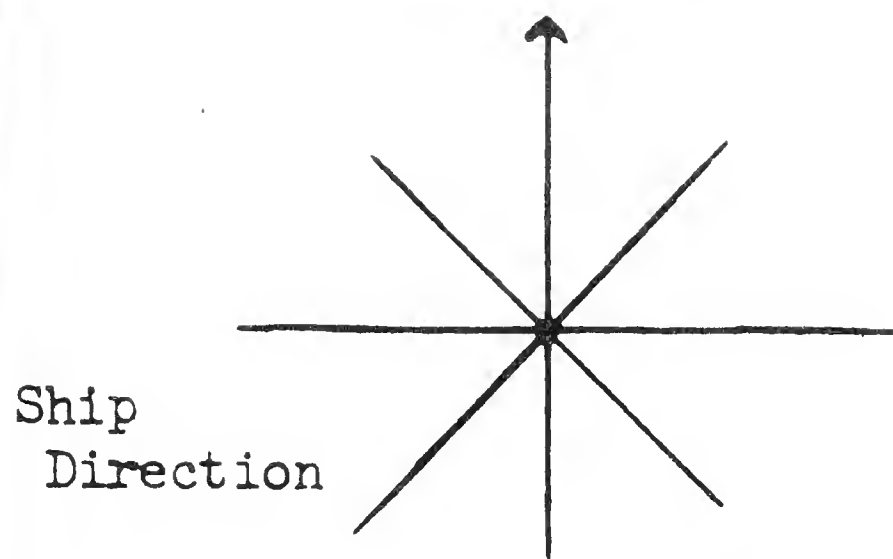
Date 16 Nov. 1967

Pg. # 1

TIME SPECIES # DIR. BAND NO. REMARKS

1300					NO OBS. IN MORNING: ship breakdown and ocean station see if there is any correlation between RTTB's salinity - RFB's salin.
1345					Begin observations: Travelling 5 knot south
1355	Leach's	1	SE		Resume full speed
1415-1430					div. line seen
1452	Sooty T	1			Lots of flying fish at present (1300-1400)
1525	Frig. sp	2			STOPT for BT
1600					imm
1740					imm or SA
					stop for oceanography stn, close observations
					SUNSET

Total hours 3 - 0



Ship
Direction

R/V JORDAN
EASTROPAC 50
SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

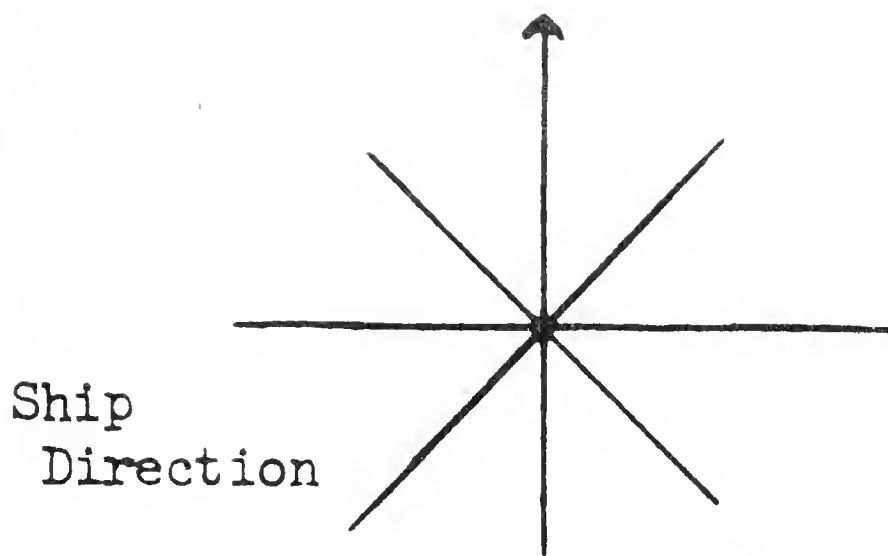
Date 17 Nov 1967
Pg. # 1

SPECIMEN
or

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
0550					SUNRISE, begin obs
0550	Tropic. sp.	1	⊙		seen by crew
0644	Leach's	1	⊙		div. line seen
0657	"	1	⊙		" " "
0701	"	1	⊙		" " "
0707	WRSP	1	⊙		
0713	Sooty Tern	1	⊙		
0730	close observations	1	SW		ad
0745	resume				fairly prominent current activity off starb. side.
0800-0815	STOP ship for BT (Stn # 189)				
0824	Storm Pet	6			on H ₂ O, Leach's?
0908	WRSP	1	⊙		Leach's?
0929	O. Tethys?	2	⊙		black, immaculate white rump, very erratic flight.
0958	WRSP	1	E		Leach?
1030					VIRTUALLY NO FLYING FISH THIS AM
1310					STOP for oceanography station, close observations (STN. 190)
1355					Resume south course at 5 KNTS.
1410					Resume Full Speed
1411	O. Tethys?	1	⊙		ENTER RAIN squall
1430-1445					in rain, field marks same as 0929
1445	WRSP	1	⊙		STOP FOR TDS (STATION # 191)
1516	Leach's	1	⊙		Leach?
1550	Humpback black whales		⊙		div. line seen
1600					5 S/E Probably Buid's (BAH-1/10/68)
					STOP for Oceanography Stn.

Sunset at 1750

Total hours: 7-15 min



Ship
Direction

R/V JORDAN
EASTROPAC 50
SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

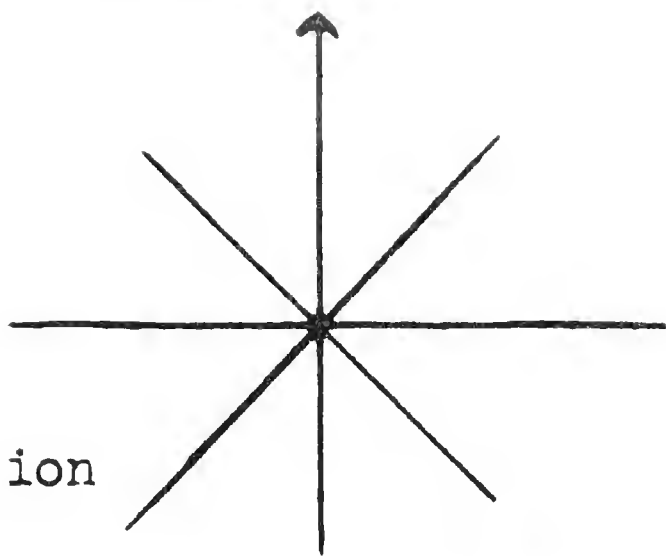
Date 19 Nov '67
Pg. # 1

SPECIMEN
or

DLS = dividing line
on rump seen

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
0540					Sunrise
0600					
0625	WRSP	1	E		begin obs.
0630					
0633	WRSP	1			STOP FOR TDS (stn. #195)
0640					molt in Primaries
0655	Leach's	1			Resume south course
0730					div. line seen
0745					close
0750	Leach's	1			Resume obs.
0802	Porpoise	2			div. line seen
0810	Leach's	1			ca 10-15 spinner-type
0814	Storm Pet	1			DLS
0818	Red Phal	1			distant
0829	WRSP	1			on H ₂ O, wint plum
0857	Leach's	1			
0900-10					DLS
0926	Leach's	1			stop for TDS (stn 196)
1005	"	1			DLS
1028	WRSP	1			"
1030					stop for oceanography stn.
1215					
1228	WRSP	1			UNDERWAY; Full speed 180°; Resume obs.
1244	wils/Harc.	1			
1302	WRSP	1			close, seen well. immaculate broad white rump
1312	Leach's	1			
1317	WRSP	1			DLS
1342	Leach's	2			DLS
1350	WRSP	1			
1355	Leach's	1			DLS
1403	"	1			DLS

Ship
Direction



R/V Jordan EASTROPAC 50
SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

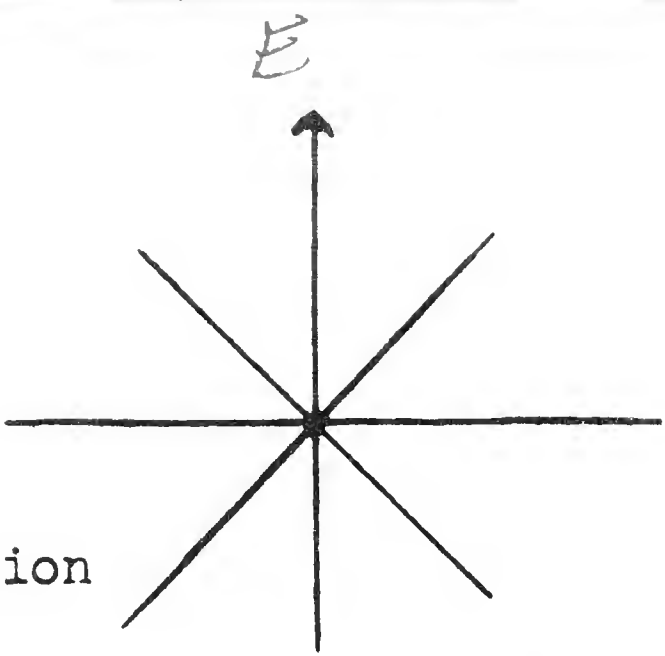
Herring 10-5

Date 18 Nov 1967
Pg. # 1

SPECIMEN
or

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
1415	1425				stop for TDS
1439	Leach's P.	3			DLS, sitting on H ₂ O
1500	WRSP	1	☉		
1508	"	1	☉		
1514	Leach's	1	☉		DLS
1517	"	1	☉		
1524	WRSP	1	☉		"
1528	"	1	☉		Flying fish (1)
1538	"	1	☉		
1550	"	1	☉		
1600					stop for TDS, close observations
1610					resume course and speed, no bird observations
1730					stop for station
1743					
1750					SUNSET

Total hours 8 - 00



Ship
Direction

R/V. Jordan
Eastropac 50
SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

Date 19 Nov. 1967

Pg. # 1

SPECIMEN

or

DIR. BAND NO. REMARKS

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
0520					SUNRISE
0600					Begin obs.
0610					
0601	Leach's Pet	1	E		DLS
0607	WRSP	3	☉		
0616	WRSP	1	☉		
0619	"	1	NE		molt in primaries
0630	WRSP	2	☉		" " "
0635	WRSP	5	E		
	Leach's	1	E		DLS
0711	Leach's	1	☉		"
0720	"	1	☉		"
0720	WRSP	1	☉		molt in prim.
0730	Close observations				
0800	Resume				
0836	Leach's	1	NE		DLS
0845	"	1	☉		DLS; molt in prim
0850	"	1	☉		
0859	WRSP	1	☉		molt in primaries
0907	Leach's	1			DLS
0949	"	2	☉		"
	O. tethys?	1			Large 'immaculate' white rump, etc. smaller than Leach
0950	Long-T. Trog	1	S		imm light
0951					Humpback whales 2 probably Biplis (BHH 01/10/68)
1020	RBTD	1			ad overhead
1042	Leach's	1	☉		DLS
1048	WRSP	2	E		
1100					close observations

DLS = black dividing line on rump
was seen.

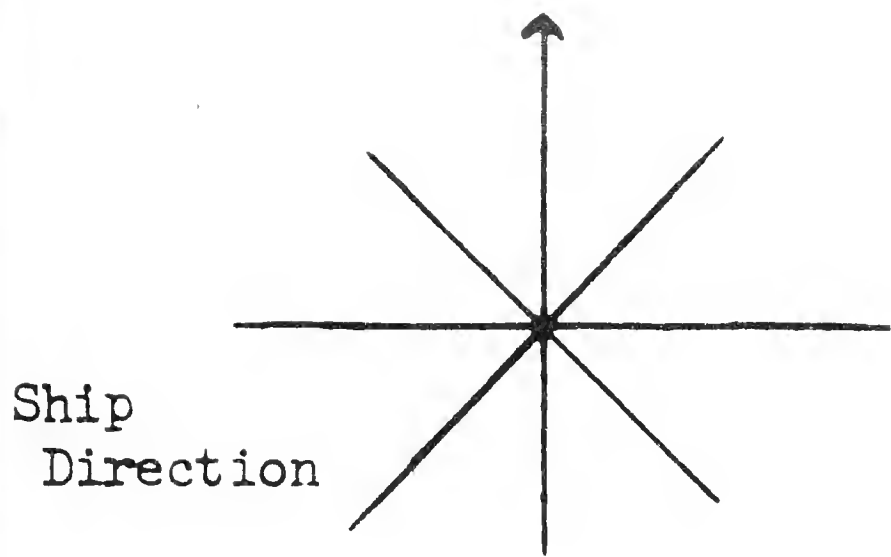
0600 Weather: stratus cld 80%, wind SE @ 08 knt
Dry T. 21.0 wet. 19.9 Barom: 29.99. Sea
3' from SE period 08. Sea Temp 21°C

Very few flying fish

Large 'immaculate' white rump, etc. smaller than Leach

Humpback whales 2 probably Biplis (BHH 01/10/68)

1030 Weather: Wind SE @ 10 knts
cloud cumulous 40%; sea SE 3' with
period 07 sec. Sea Temp 21.5
Dry T: 20.8 wet: 20.0



Ship
Direction

R/V Jordan
Eastropac 50

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

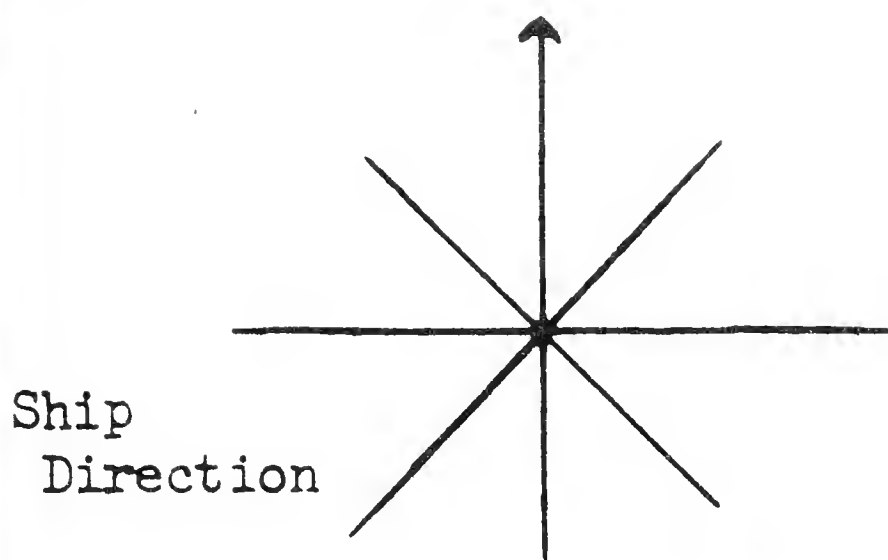
Date 19 November 1967

Pg. # 2

SPECIMEN
or

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
1200					Resume observation
1220	sperm whales				7 NW All fairly small
1220	WRSP	(1)	☉		
1307	WRSP	1	☉		— circling the whales.
1307	Leach's	1	NE		
1322	Stom Petrel	(1)	☉		— DLS
1337	WRSP	(1)	☉		— distant
1340	"	1	☉		
45	"	2	☉		
46	"	1	☉		
55	"	1	☉		
56	"	1	☉		
1402	"	1	☉		
	Leach's	1	☉		
1409	Leach's	1	E		
1416	WRSP	1	NE		
1422	Leach's	1	SW		— dLS
1430	WRSP	1	☉		
1430					CLOSE OBSERVATIONS
1500					RESUME "
1510	Leach's	1	☉ E		— dLS
	WRSP	1	☉		
1518	Leach's	1	e		— dLS, molt in prim.
1545	WRSP	1	S		
1614	"	1	NE		
1615					— close observ.
1630					— Spinner - type porpoise ca 200 ± 50
1738					— sunset

Total birds
miles
hours: 8 - 15 min



Ship
Direction

R/V JORDAN (WTRK)
EASTROPAC 50
SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

Date 20 Novemb 1967

Pg. # 1

SPECIMEN

or

TIME SPECIES # DIR. BAND NO. REMARKS 1738 SS last night

0600 0512 sunrise DLS = diving line
open obs. on rump seen

0604 Leach's 1 DLS

0715 WRSP 1 E

0715 reduce speed to 05 knots

0730 close observations.

0745 Resume " at 05 knots East

~~0751~~
0755 WRSP 2

0816 " 1

0842 Wils/Castro 1

47 Leach's 1

0850 Leach 2

0850 on H₂O, DLS

1115 stop for ocean station

1200 underway NORTH

1201 resume obs.

1216 Leach's 1 NE Small whale or large porpoise 2 breaching

1218 " 1 DLS

1231 WRSP 3 DLS

1317 Wils/Harc 1 following

1327 WRSP 3

1337 Leach's 2

1343 WRSP 2 DLS Line seen

1345 1355 stop for TDS

1355 WRSP 1

1402 Leach's 1

1405 Procellaria sp. 1

Genus *Eximite*: All dark, light colored bill (fairly short)
body shape much like a gadfly petrel only
with a very short tail. Wings shaped like albatross. Behavior

noticeably lighter black distinctive. Very much like
a leach's petrel when evading
a ship's bow or gunshot, ie frequent
twisting and turning, rapid
flight. Did not follow the
ship

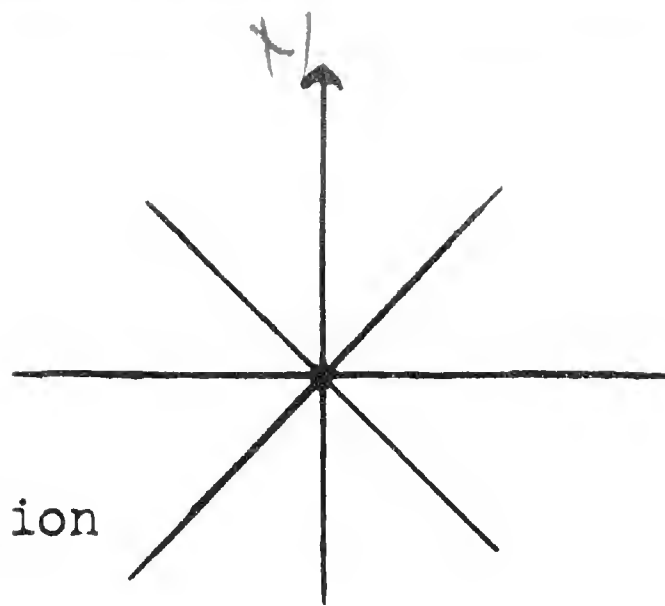
Size smaller than Black-foot albatross, larger
than pink-foot shear. Tail very short

looked almost white

SI-MNH-958-e

Rev. 5-66

Ship
Direction



SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

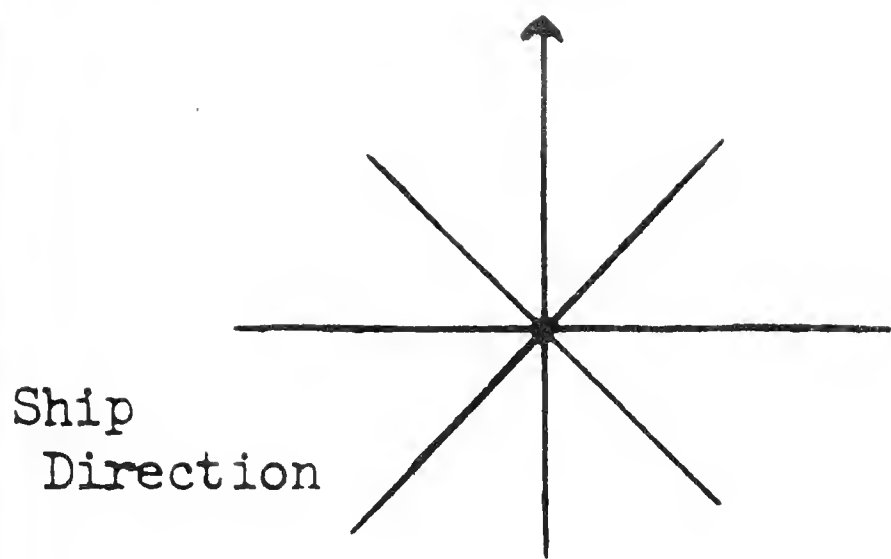
OBSERVERS:

Date 20 Nov '67
Pg.# 2

SPECIMEN
or

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
1424	Leach's	1	⊙		
1427	WRSP	1	NE		DLS, molt in prim.
1431	"	1	⊙		
1432	Leach's	1	E		
1445	wils/harc	1	⊙		DLS, molt in primaries
1445	Leach's	1	⊙		
1447	WRSP	2	⊙		DLS
1502	Leach's	1	NE		on H ₂ O
1517	Harcourt	1	⊙		DLS, molt in prim.
1525	Petrel or Tethys	1	⊙		seen well: slight notch tail, smaller than Leach,
1532	RBTB	1	⊙		broad white rump
1535	Leach's	1	⊙		same?
1545	"	1	⊙		sitting on H ₂ O
1550	O. Tethys?	5	⊙		DLS, molt in primaries
1554	WRSP	1	NE		" " " "
1600			⊙		
					stop for oceanography stn, close obs.
1727					
1753					SUNSET

Total birds:
Total miles:
Total hours: 6 - 35 min



R/V Jordan
Eastropac 50

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

Harrington

Date 21 Nov. 1967

Pg. # 1

SPECIMEN

or

TIME SPECIES # DIR. BAND NO. REMARKS

DLS = diving line on rump seen

0522					Sunrise
0545					Begin obs
0545	WRSP	1	⊙		
0600	WRSP	1	W		
0647	O. tethys	2			following
0710	"	1	⊙		
0730					
0800	stop for TDS				close obs.
0815	O. Tethys	1	⊙		Resume course, 10 knots N. Open observation
0858	"	1			following
0900	Leach's Pet	1	W		
0905	Fly sp	3	⊙		DLS
0917	WRSP	1	⊙		imm circling overhead
0918	RBTB	1			
0922	WRSP	1			circled overhead, photo HSE
0925	O. Tethys	3	W		
0935	"	1			following (Photo 1 HSE)
0945	"	5	⊙		Now 4 following
1015	close obs		⊙		Now 9
1315					
1315	Fly sp	1	⊙		Resume N. course and observations
1332	Leach Pet	1	W		imm
1335	O. tethys	2			DLS, molt in primaries
1400	O. tethys	2	W		following
1415	1430				Now 4 following
1456	Leach's	1	W		stop for TDS
1504	"	2	⊙		
1504	WWP	1	SE		
1510	Leach's	1			
1514	O. tethys	6			sitting on H ₂ O
1531	Leach/harc	1	E		
1534	O. tethys	1			following
1535	Leach's	1	E		DLS, molt in primaries
1600					stop for station: close observation

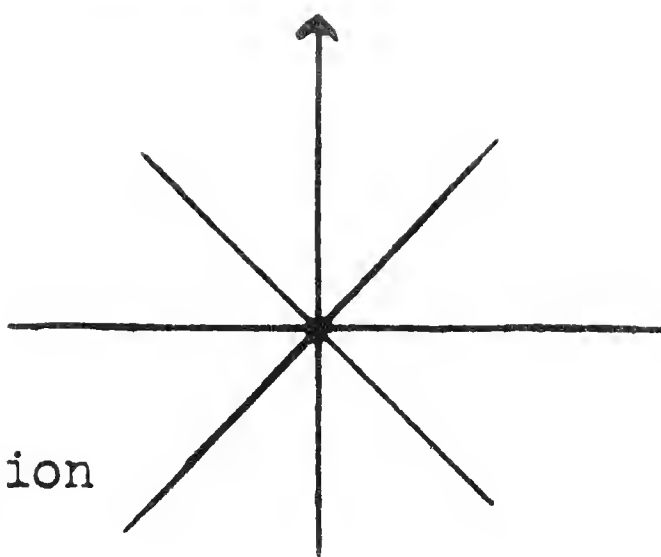
no flying fish

no flying fish

2 flying fish seen

Total birds:
Total miles:
Total hours 6-30 min

A few flying fish



Ship
Direction

R/V Jordan
Eastropac 50
SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

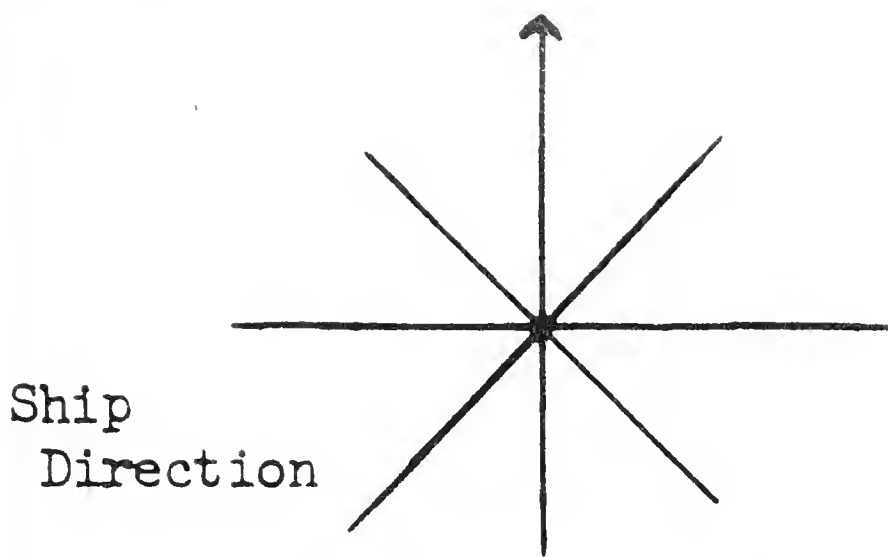
OBSERVERS:

Date 22 Nov 1967
Pg. # 1

SPECIMEN
or

TIME SPECIES # DIR. BAND NO. REMARKS

0					
0830					
0838	Leach's	1	e		resume N. course @ 12 knts.; open observations
0842	"	1	⊙		
0842	WWP	1	⊙		single flying fish common
0847	wils/Harc	1	⊙		
0847	S/SI	1	⊙		
0850	RFB	3	se		sooty: light underwings
0859	O. tethys	1	⊙		dark
0915	"	2	⊙		
0916	WWP	1	S		now seeing some schools
0925	Leach's	1	⊙	DLS	
0938	WTS	1	⊙		dark
0938	Stam Pet	1	⊙		
0940	O. Tethys	1			distant
0940	R.F.B.	1			following
1005	Leach's	2	⊙	Sa	
1015				DLS	
1250					STOP for ocean. stn.
1310	wedgetail	1	⊙		Resume N course at 12 knts
1333	"	1			Light
1336	O. tethys	2			" on H ₂ O — Heavy body and Primary molt
1345	RFB	1	⊙		following
1401	WWP	1	⊙		imm (bill all black), molt in inner primaries
1402	O. tethys	1	⊙		photo HSE
1402	sooty T.	2	⊙		
1402	WTS	1	⊙		imm
1407	WWP	1	⊙		dark ph.
1414	red Phalarope	1	E		
1415-					on H ₂ O, Wint. plum
1415	O. Tethys	3			now 4 following
1425	Pom. Jaeger	1	NW		light



Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

Date 22 Nov '67
Pg. # 2

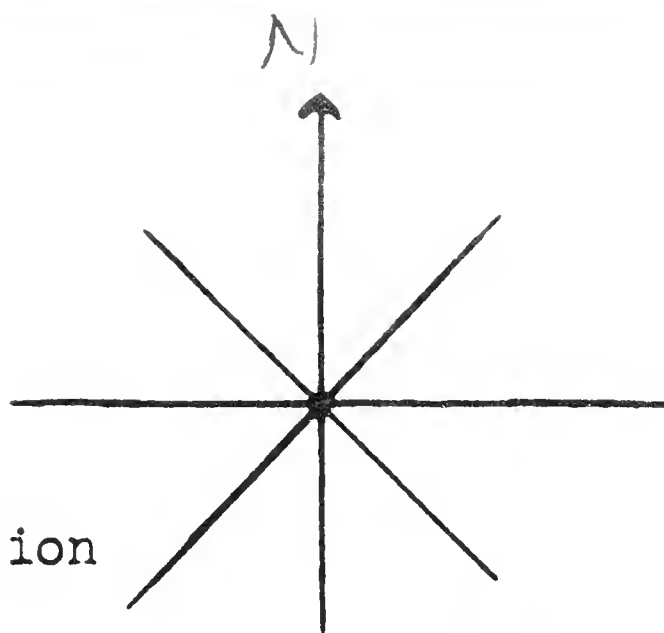
SPECIMEN
or

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
1430					resume course after TDS
1434	N. Phal	1	N		Wint plum
35	WRSP	1	⊙		
45	Leach's	3			DLS
	WWP	1			on H ₂ O
51	Shear/Pet	1	⊙		all dark, I think it was pink foot
	Pink-foot?				
1500	WWP	1	E		
1502	Leach's	1	⊙		DLS
1502	O. tethys	2	⊙		
1522	Pale-foot	1			molt in prim.
	Wedgetail	3			on H ₂ O
					light
1524	Leach's	1			
1538	Leach	4	W		dls
	Harcourt	1			DLS
	WWP	1			NO DLS, shallow notch, no extending feet
	Wedgetail	1			dark
1540	Leach's	1	⊙		
SF 1545	Pom Jaeger	1			dls
	Sooty tern?	200 ^{±30}			dark (part of flock)
	Shear/pet	30 ^{±10}			FT over large school of shipjack
	W.T.S.				light
	Frigate AP	33			
1550					stop for oceanog. stn.

Flying fish schools and singles
common

ON
H₂O

Total hours 4 - 45



Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

Date 23 November 1967

Pg. # 1

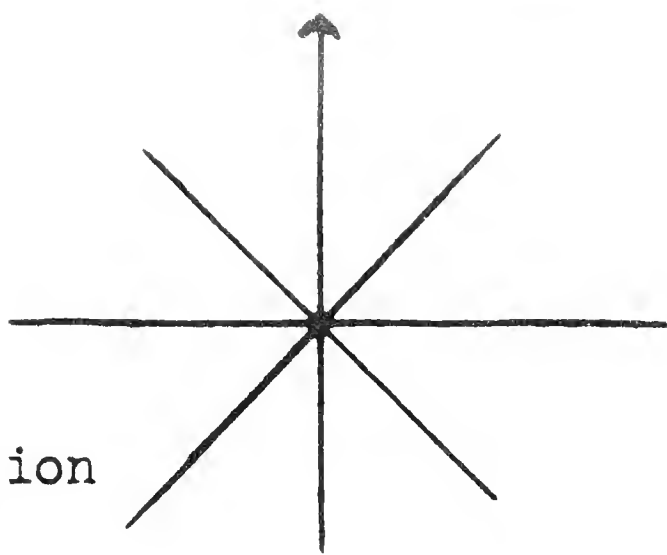
SPECIMEN

or

TIME SPECIES # DIR. BAND NO. REMARKS

						SUNRISE
	0615					Begin observations
	0620					enter rain shower
	0624	Wedgetail	1	se		light, in rain
	0626	storm pet	1	se		small, all dark.
	0627	O. tethys	1	☉		following
	0630					leave rain shower
SF	0700	sooty T.	7			all adults
		shear/pet	3			
	0702	wedgetail	1	☉		light phase
	0714	sm. Pterod.	1	☉		distant
	0730					close observations
	0815					resume
	0816	O. tethys	2	☉		
	0820					enter rain shower
	0821	sm. Pterod	1	SE		
	0821	Leach's	1	SE		dl's
	0825					end of rain shower
	0826	Wedgetail	1	☉		light at edge of rain squall
	0846	P. cookii?	2	SE		possibly hypoleuca
	0848	WWP	1	NW		
	0855	WWP	1	SE		
	0857	Leach	1	N		dl's
	0905	Phoenix/Tahiti	1	☉		no molt, dark brown
	0907	O. tethys	1	☉		
	0921	Leach's	1	☉		
	0923	Wedgetail	1	W		dark
	0923	Pom. Jaeger	1			light on H ₂ O, body molt, fairly short center shafts
	0930	WWP	1	SW		
	0931	Leach	1	☉		
	0933	Cook's	1	☉		
	0936	Phoenix/Tahiti	1	☉		molt in prim, upper wing.
	0940	Leach's	1	☉		dl's
	0945					enter rain squall
	0950	Kermadec P	1	☉		in rain dark phase
		O. tethys	1	☉		" "
		Leach's	1	☉		" "
	0952	WWSP	6			" "
	0954	Wedgetail	7			" " on H ₂ O Leach's or castro
						" " on H ₂ O 5- light, 2 dark

flying fish numbers moderate



Ship
Direction

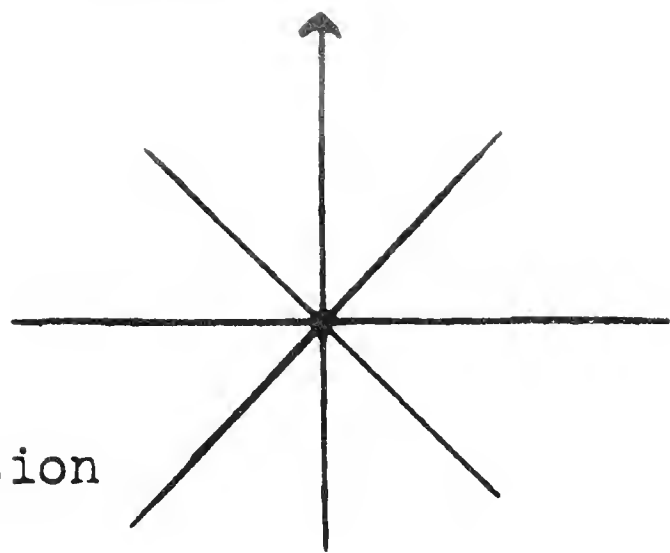
R/V Jordan
Eastropac 50
SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

SPECIMEN
or

Date 23 Nov. 1967
Pg. # 2

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
1005	Wedgetail	1	☉		light
1007	"	1	☉		dark
1015					
1250					STOP for Oceanography station, Close observ.
1304	WRSP	1			resume observations, enter rain showers
1315	Wedgetail	1	☉		in rain
1315	WWP	1	☉		light, edge of rain
1350	Wedgetail	7	e		" " "
	P. puffinus	1			light, on H ₂ O
1352	WWP	1	☉		" "
1356	Wedgetail	1	☉		
1400	WWP	3	☉		light
1406	Sooty Tern	3	☉		
1407	WTS	1	w		imm.
	WWP	1			light } on H ₂ O
1409	WTS	1			
1410	WTS	2	☉		light
1418	WTS	1			" on H ₂ O
1423	WTS	1	NW		light
1430	Wedgetail Sooty	1	N		"
1441	B Face Booby	1	☉		eyes light
1443	WTS	1	w		adult
1444	Leach's Pet	1	w		light, molt in primaries
1455	Leach's P Wedgetail	2	☉		DLs
1457	WWP	1	☉		light
1458	Wedgetail	2	☉		
1502	Storm Pet	1	☉		on H ₂ O, one w/prim molt
1505	Sm. Pterod	1	☉		distinct
1511	Leach's	1	☉		
1525	O. Tethys	3	☉		DLs
1528	WRSP	3			on H ₂ O
	Leach's	1			



Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

Date 23 Nov '67

Pg. # 3

SPECIMEN
or

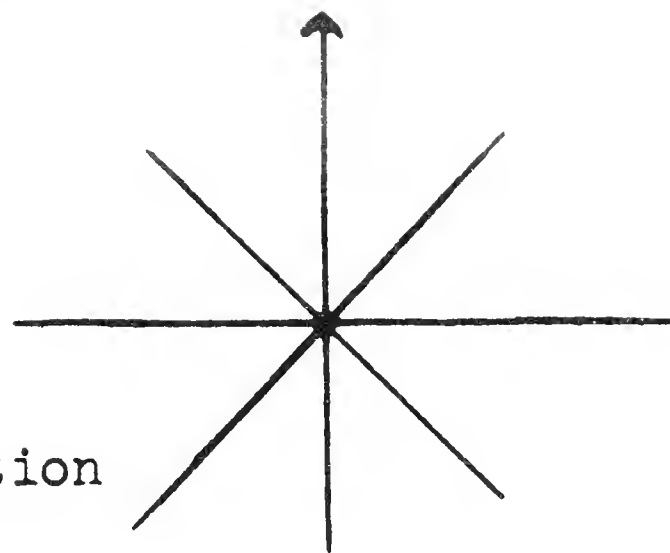
TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
1540	Cook's P	2	SE		
1541	Wedgetail	3	⊙		light
1541	Leach's	1	⊙		dls
1547					
1550	Leach's	1	⊙		sea turtle, loggerhead
1600					stop for oceanography Station, close observation.

Total hours 6 - 25min

SI-MNH-958-e
Rev. 5-66

Total hours 6 - 25 min

Ship
Direction



2/V. Jordan
EASTROPAC 50
SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

Date 24 Nov 1967
Pg. # 1

SPECIMEN
or

TIME SPECIES # DIR. BAND NO. REMARKS

	0715				Begin observations
FF	0735	Sooty Tern	50		30% imm, rest ad.
		Wedgetail	200		light (150 w/ primary molt)
		"	1		dark
		Fairy Tern	2		
	0740	Pomarine J.	3		light
	0800				also obs
	0805	Leach's	1		resume obs
	0810				Dls
	0825	Leach's	1		large fin back or blue whale: head large
	0829	WRSP	3		dls
	0832	Wedgetail	1		light
	0846	Kermadec Pet	1		dark
	0852	Red-foot B.	1		adult light phase
	0900	Wedgetail	1		light.
	0907	Leach's	1		dls
	0907	O. tethys	1		
	0915	B-face Booby	1		
	0920	Wedgetail	1		subadult
	0931	WRSP	1		light
	0948	Wedgetail	2		light
	0948	Leach's	1		
	0955	WRSP	1		
	0956	Pomarine J	2		light
	1000				Now a few flying fish
	1014	Leach's	1		Manta Ray
	1015				dls
	1255				stop for oceanography stn: close observations
Fish	1305				Resume course and observations
	1330	Wedgetail	1		Skip Jack jumping 1/4 - 1/2 mile starboard side
	1337	"	1		light
	1408	WRSP	1		"
	1430	Wedgetail	1		feeding
	1500	Leach's	1		in rain, light ph.
	1505	storm Pet	6		dls
	1506	O. tethys	1		on H.O
	1515	Wedgetail	1		light molt in rain
	1515	LL	1		dark

$$100 \overline{) 13500}$$

$$\begin{array}{r} 36 \overline{) 1350} \\ 108 \\ \hline \end{array}$$

270

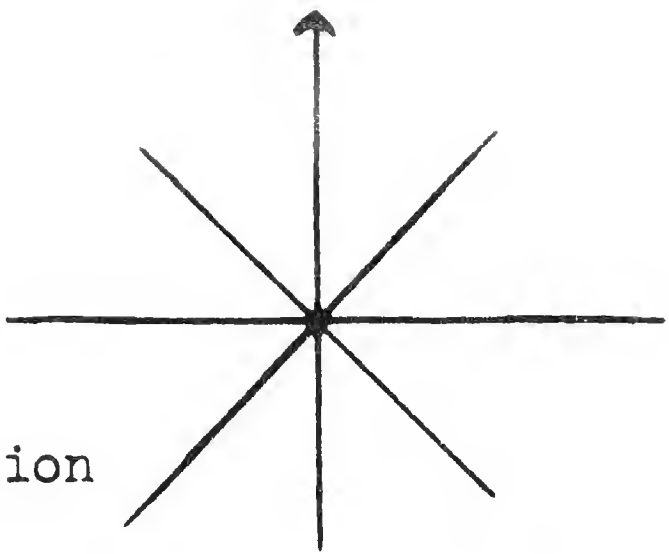
288

37.5/day

$$\begin{array}{r} 24 \overline{) 37.5} \\ 24 \\ \hline 135 \\ 120 \\ \hline \end{array}$$

37.5 one dollar cigars/day

1.5 cigars/hour 24 hours a day



Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

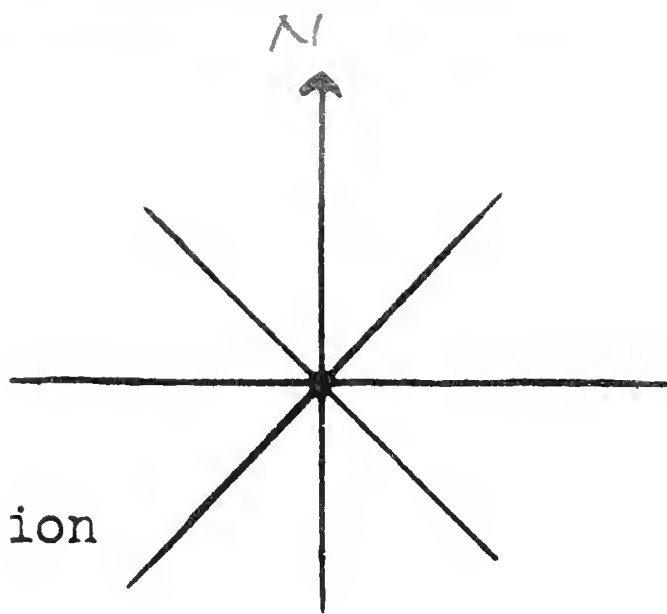
Date 24 Nov '67
Pg.# 2

SPECIMEN
or

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
1515	O. tethys	1			now 2 following
1517	Pom. Jaeg	1	S		light
1520	Wedgetail	3	⊙		light
1523	Leach's	1	⊙		dls
	WRSP	3	⊙		dls
1530	Leach's	3	⊙		dls
1534	WRSP	1	⊙		dls
1535	Leach's	1	⊙		dls, molt in primaries
1537					skipjack jumping
1542	Pom J.	1	W		light, molt in primaries
1550	WTS	2	⊙		light, 1 w/ primary molt, close 1550

Total hours: 5 - 40

Ship
Direction



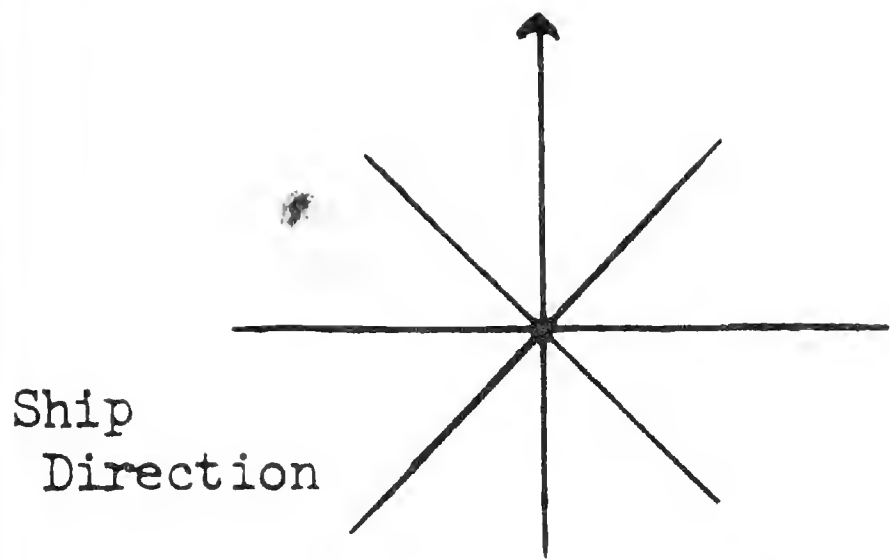
SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

Date 25 Nov '67
Pg. # 1

SPECIMEN
or

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
0630					start observations, resume course after station
0635	Pom J	1	○		light
0642	"	1	SW		light
0645	Pale foot Shear	1	S		
0648	Taig ap	2	○		
0648	Storm Pet	1	○		
0652	Pom Jaeg	1	○		light
0704	R-F-Booby	1	○		dark
0710	Pale-foot	1	○		
0711					turtle 1
0720	Pom J	1	SE		close obs
0730					resume "
0800	Pom J	1	NW		light
0815	Red Phal	1			on H ₂ O, wint plum
0946	Leach's	1	○		
1005	N. Phal	5	○		on H ₂ O along line of path going east-west
1015					from horizon to horizon (photo)
1300	Resume observations				stop for oceanography station
1303	BFB	1	○		log w/ fish
1305	Phalarope sp	2			SA
1314					on H ₂ O
1317	Wedgetail	1	○		log w/ fish
1320	Pom J	1	○		light
1332	P. puffinus	1	○		light
1347	BFB	2	○		on log
1347	RFB	2			" "
1350	Booby sp.	1			on log
1400	Wedgetail	1			light
1412	P. puffinus	1	○		
1420	WRSP	1	○		
1422	BFB	1	○		
1422	WTS	1	○		Light



Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

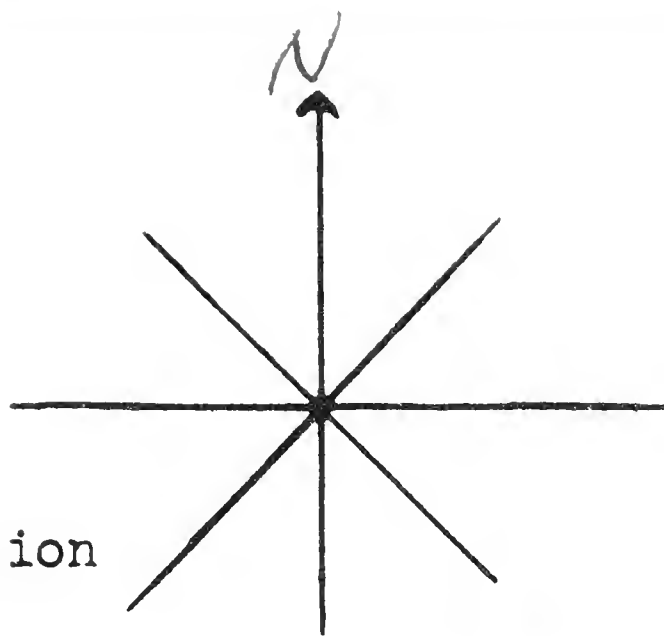
OBSERVERS:

Date 25 Nov 67
Pg. # 2

SPECIMEN
or

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
1453	Bl. face Boob	1	N		ad
1510	Storm Pet sp	1	NE		
1520	Pom. Jaeg.	1	⊙		light
1526	Phalarope sp	4			on H ₂ O wint plum
1527	"	3			" "
1530	N. Phal.	3			" "
1541	"	3			" "
1545	Phal. sp.	3			" "
1546	Pom Jaeg	1	E		light
1550					STOP for Ocean. station

Total hours 6-05



Ship
Direction

R/V Jordan
Eastropac 50
SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

Date 26 November 1967
Pg. # 1

SPECIMEN

or

TIME SPECIES # DIR. BAND NO. REMARKS

0740 — begin observations

0750 Bl.-face B 1 E — ad

0758 N. Phal 2 — WP

0824 RFB 1 —

0847 Bl.-face B. 1 —

0854 — 1 N — ad

0900 — — — sea turtle

0900 R. Phalarope 1 —

0904 " ? 1 SW — WP

0920 Pom J 1 SW — WP

0928 WTS 1 SE — light

0937 Phal sp 4 — light

0941 Black Tern 4 E — WP

0959 Bl.-face B 2 NW —

1006 N. Phal. 3 — ad

1015 — 1 NE — WP

1245 — — — stop for oceanography station

1250 B.-face B 2 — resume

1307 N. Phal 1 — on H₂O, ad.

1312 N Phal 2 — WP on H₂O

R Phal 1 —

1315 N Phal 125^{±25} — on H₂O

R Phal 30^{±10} —

Black Tern 75^{±10} — on H₂O Wint Plum

P. puffinus 1 — " " "

1320 BFB 1 — ad (How 2)

1322 RFB 1 — dark

1344 Phal. sp 7 — WP

1347 Black Tern 1 —

1350 Phal sp 11 NW —

1401 ~~Red~~ Phal 50^{±5} N — WP

1403 Phal sp 14 — on natural slicks WP

1404 Phal sp 15 — WP on H₂O

1407 Phal sp 20 — WP on H₂O

— — — " " "

— — —

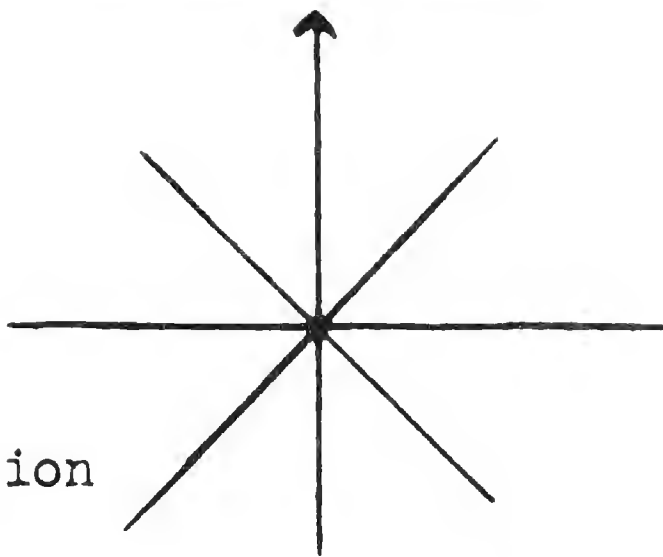
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Ship
Direction



SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

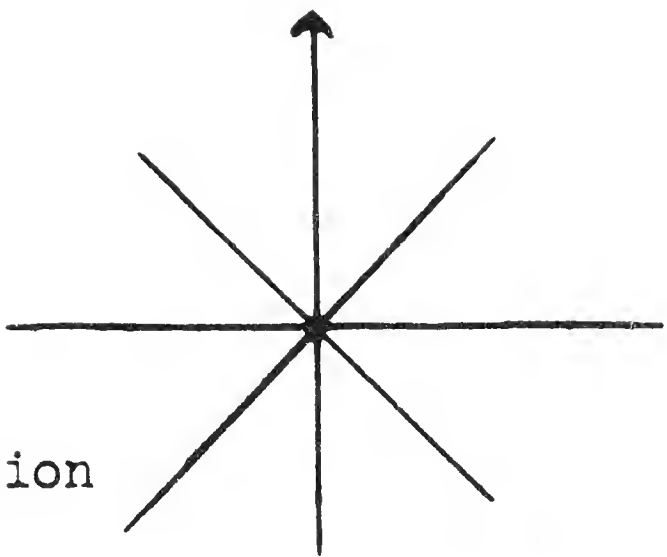
OBSERVERS:

Date 26 Nov '67
Pg. # 2

SPECIMEN
or

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
1410	N. Phal	15			WP on H ₂ O
1414	N Phal	17			" "
1415	N "	20			" "
1415	Brown B	1			SA on H ₂ O
1440	P. puffinus	1	E		
FF 1520	B. face B	12			ad feeding
	Booby sp	1			
1521	Wedget.	1	E		Light
1535	Bl.-face B	2			ad on log
1538	RFB	2			on log
1550					STOP FOR OCEANOGRAPHY Station, close obs.

Total hours 5.40 minutes



Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

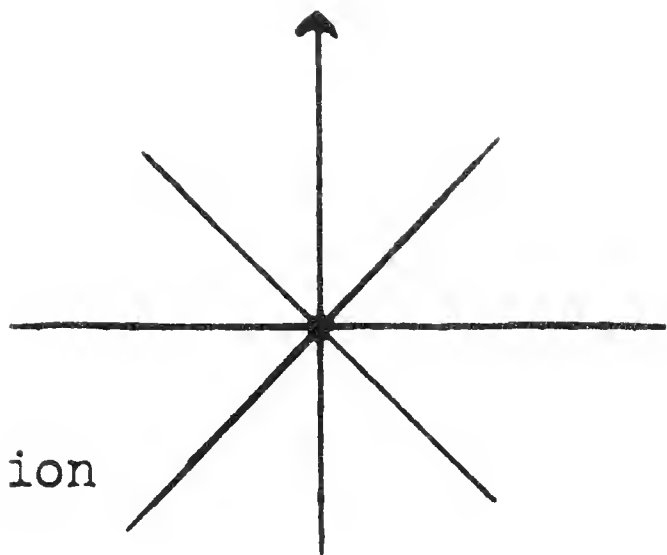
OBSERVERS:

Date 27 Novemb 1967
Pg. # 1

SPECIMEN
or

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
0600					begin obs
0611	BFB	1	N		ad.
	Booby sp	2	N		
0616	RFB	1	⊙		
0621	BFB	2			
0621	Pale-foots	1	⊙		on log
0625	BFB	2			
0625	Bl. booby	3	SW		ad
0640	"	2	W		
0641	"	2	W		1 ad, 1 imm
0652	BFB	1			" "
0652	Bl. B	1			ad landed on log where BB was roosting. The
0655	BFB	1			BB left
0700	steria	1			on log
	Tem		N		
0700	Pom Jaeg	1	⊙		gray dorsal, white ventral, tail white
0701	Brown Boob	3	W		Light
0702	"	1	W		
0720	"	2	W		ad
0730			W		"
0750	Pom. J	2			close obs
0815	"	1			light following
0845	Phal sp	1			dark "
0846	P. puffinus	1	⊙		wp
0846			⊙		turtle
0847	Phal sp	2	⊙		wp
48	Black Tern	3	N		
0906	Bl. Booby	1	W		ad
FF 0906	Pale bot	2			
	Black Tern	12			
	Parasitic V	1			

Ship
Direction



RV Jadan
Eastropac
SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

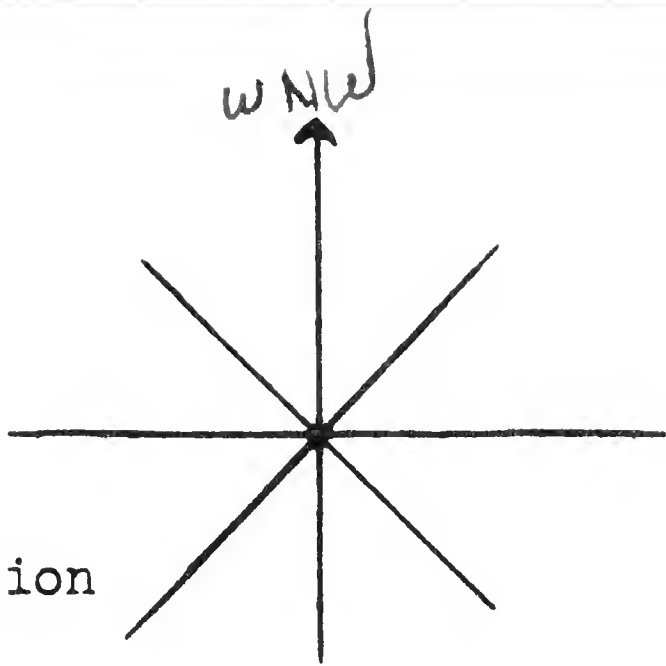
Date 27 Nov. '67
Pg. # 2

SPECIMEN
or

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
0910	Pale-foot	1	⊙		schools of flying fish common most of the morning
0920	P. puffinus	1	N		
0922	Pom. J	1	W		
0927	MAG. FRIG	2	⊙		
0927	Black tern	1			Light Ad ♀
0942	K				sitting on floatsom
0949	Pom Jaeg	1			killer whale 1 - Small, short (ca 8'10") short dorsal.
1000	BFB	1			light
1012	Pom. J	1			on log ad
1015			⊙		light
1215					stop on Ocean station, close obs.
FF 1220	Sterna Tern	8			resume obs.
	Black	4			gray dorsal, white ventral
1228	Phal sp	1			Feeding over skipjacks
FF 31	Sterna sp	6			on H ₂ O, WP
	Black T	3			
1253	N Phal	2	⊙		wint plum
	R Phal	1			
1257	Phal sp	1			
1300					4 light, 1 dark Jaeger following
1310	Phal sp	1	⊙		wp
1318	Pale-foot	1	N		
TF 1326	Sterna Tern	8	W		TF
	Black T	2	W		
1337	Phal sp	3			on H ₂ O
1400					close obs.

Total Birds 103

Total hrs. 5 hours 40 min



Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

Date 28 Nov 1967
Pg. # 1

SPECIMEN
or



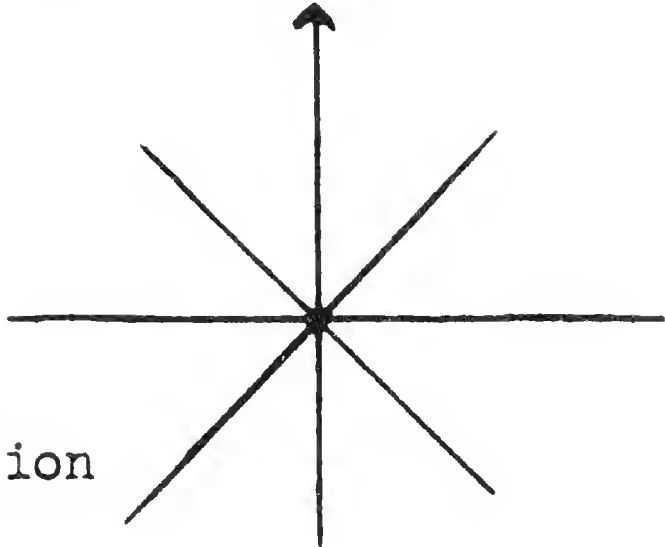
TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
0740					begin
0740	B. booby	3	SW		2 ad, 1 imm
0741	"	2	SW		1 " "
41	Pom J	1			LP, following
42	B B	3	SW		ad
43	"	2	SW		"
45	"	4	"		"
47	"	8	"		"
54	"	7	"		"
54	"	6			imm following
03	"	5	SW		ad
10	"	12	"		"
15	"	10	"		"
0837	Pom J.	1			Now 2 light following
0900	Phal. & P	1	SW		wp
0915	"	1	SW		"
0930	N. Phal	1	SW		"
0937					
0943	N. Phal	1	SW		Turtle wp
Pop 0943					spinner porpoise 25
0948	Phal 2p	1	⊙		wp
0959	P. puffinus	2	SW		
1000					close obs
1230					resume obs.
1243	B. booby	1	⊙		imm
1250	Sabine Gull	1	E		2 turtles
1250					
1300	sterne tern	1	⊙		gray above, white below
1306	Brown B	3	⊙		2 ad, 1 imm.
1315	Pom J.	1			light following
1316	Brown B	1			SA following
FE 1317	Br. B.	38			
	Black T	70±10			
	sterne Tern	1			

wind 07 from 33
dry 26.5
wet 25.3
Barom 29.92
cloud 0

wind 10 from 27
dry 27.1
wet 26.0
Barom 29.86
cloud 0

WNW

OBSERVERS:

Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

Date 28 Nov. 1967
Pg. # 2

SPECIMEN
or

TIME SPECIES # DIR. BAND NO. REMARKS

1330

1445

1448

Pom J

1

1515

Brown Boob

1

1515

Phal. RP

1

1522

Brown B

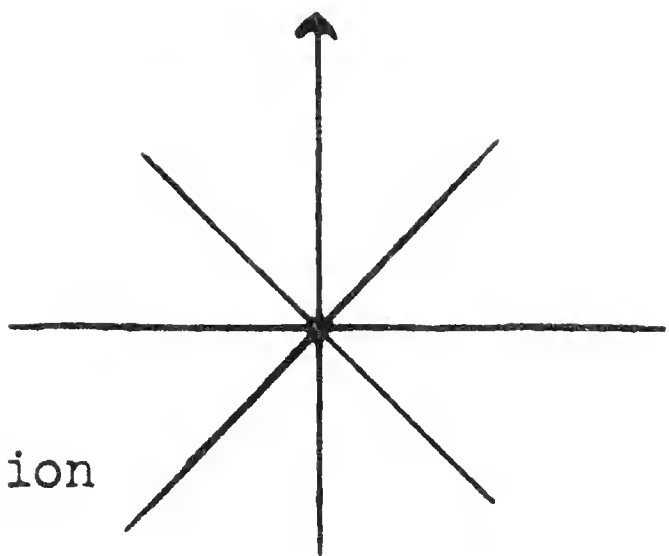
1

1530

close observations
resume
light following

close observations.

Total hours 4 and 05 min



Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

Date 29 Nov. 1967

Pg. # 1

SPECIMEN

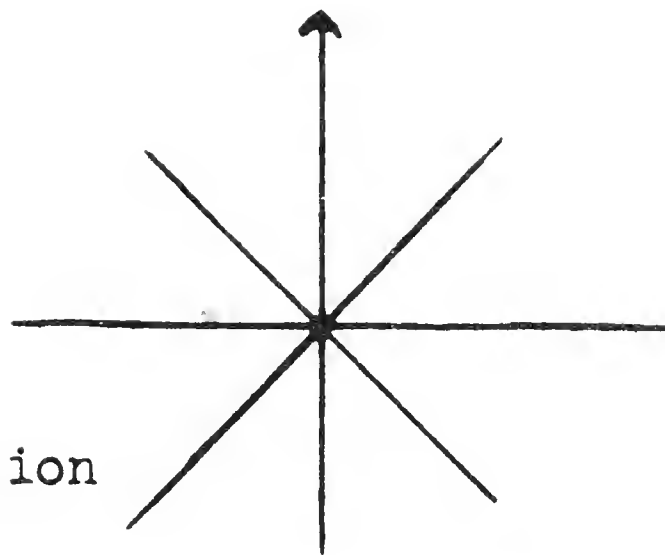
or

TIME SPECIES # DIR. BAND NO. REMARKS

	0615				SR
	0700				begin obs
	0705	Sterna Tern	3	NE	gray back, white under
	0710	Br. B	1	SW	ad
		"	1	"	imm
	0715	B.B.	3	SW	
	0719	"	4	SW	
	0719	Phal. sp	1	NE	wp
	20	BB	1	SW	
	22	"	8	"	
	22	Least Tern?	11	NE	called as Sterna Tern
	22	Phal sp	5	SW	wp
	25	BB	2	SW	
	0730				close obs.
	0800				resume
	0805	BB	3	SW	
FF	0812	Sterna Tern	75		over feeding fish
		BB	2		
	0817	BB	2	SW	
FF	0820	Sterna T.	80		FF
		BB	6		
	0830	Black St. Pet	5	NE	
TF	0831	Phal sp	11	SW	
FF	0834	Black Tern	150		over pred. fish.
		Sterna Tern	5		
		Black S. Pet	2		
	35	Black ST P	1	SW	
	36	Black Tern	1		on Log
	43	Sabine G	3	S	
	45	Black Pet	1	SW	
	45	Black Tern	2	NE	
	45	N. Phal	2	SW	

391

Ship
Direction



SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

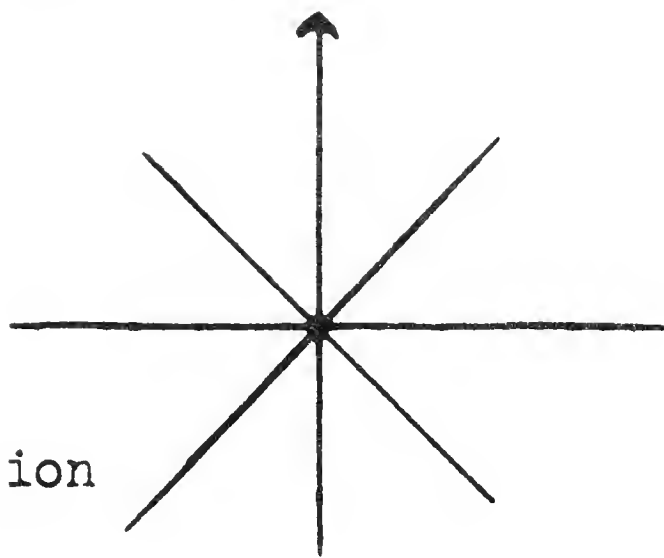
OBSERVERS:

SPECIMEN
or

Date 29 Nov. '67
Pg. # 2

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
0850	Phal ap	20	S		
FF 0851	Black Trn	50			
0900					close obs.
1000					resume obs.
1011	Sterna tem	3			
	Black SP	2			
	Sabine	1			
1017	Black SP	2			
	SP ap.	2			small
1020	Black SP	1	⊙		
1021	"	1	⊙		
1021	Sterna Tem	2	⊙		
1023	BB	2	N		wh
1025	BB	2	"		"
+30	Phal ap	5			
+40	Bluestorm P	1	⊙		
+41	Phal. ap	8	⊙		
+42	Sterna tern	1	⊙		
+51	Black B SP.	1	⊙		
+58	Phal ap	5	⊙		
+1100	Black T.	1	S		
+1102	Sabine	1	SW		
1105					wind picking up
1105	Phal ap	4	E		
1105	BB	2	S		wh
1110	BB	2	S		wh
1110	Black st. P	1	S		
+1111	Bl. st. Pet	3	⊙		
+1111	BB	2	S		wh
1112	st. Pet	1			small, dark r., wedge-t.
1112	BB	1			
1113	Phal ap	1	W		
1115			E		
					close obs.

All Phalaropes were in wind coverage



Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

Date 29 Nov '67

Pg. # 3

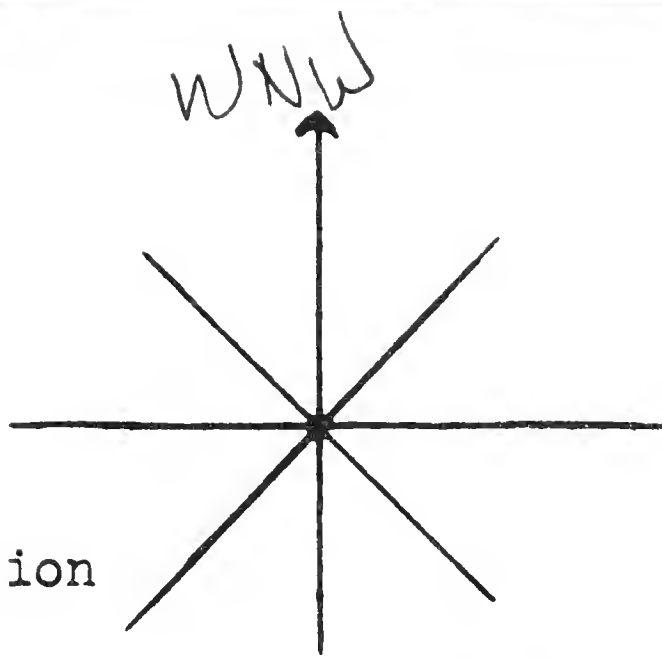
SPECIMEN

or

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
1130					Resume
FF 1233	BB	14			
	Sooty T	700			FF
35	P. puffinus	3	⊙		
1240	P. puffinus	1	⊙		
1242	Storm P	1	⊙		
44	BB	1	⊙		Small, DT, light
50	Phal sp.	1	W		Wh
56	BB	1	⊙		
1302	"	1	⊙		
1302	Phal sp	1	N		
1314	Storm Pet	2	S		
1349	Phal sp	1			1 small, possibly wedge-t. 1 beach-size, dark rump
1400					
1445					close obs
1452	N. Phal	1			resume observations
1500	Phal sp	1			on H ₂ O
1503	L-T Jaeger?	1			"
1507	Soot. T	3	W		A few flying fish now
1507	Phal sp	1	NW		Possibly Paras. light ph
1521	N. Phal	1	⊙		ad
1522	Phal sp	2			on H ₂ O
1526	P. puffinus	2 10	⊙		
1532	"	5	N		
1534	BB	3	N		
1534	Frig sp	1	N		2 Lh, 1 Dh
1534	Soot tern	1	⊙		
1540	Phal sp	1	⊙ N		ad
1542	Br. Booby	1			Dh
FF 1545	ST	50	⊙		all ad
	P. Puffinus	75	⊙		
1555	P. Puffinus	9	N		
1600					close observations

Sunset at 1720

Total birds
miles
hours 6 and 15 min



Ship
Direction

P/V JORDAN
EASTROPAC
SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

Date 30 Nov. 1967

Pg. # 1

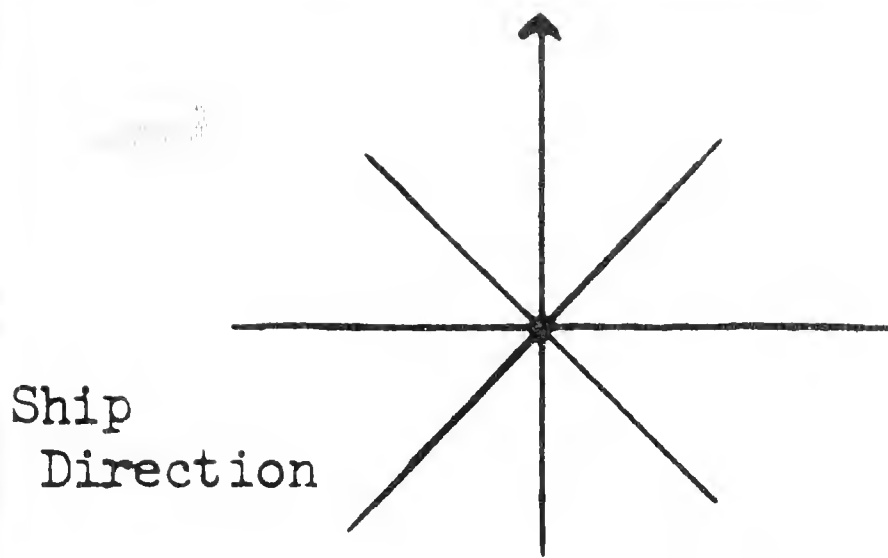
SPECIMEN

or

TIME SPECIES # DIR. BAND NO. REMARKS

Sunrise at 0625

0830					open observations 38 miles SE of Cape San Lucas
0910	E. Phal sp	1	⊙		
0915	"	1	NE		
0920	"	1	⊙		
1025	Black SP	5			following
1030					close obs
1101	R. Phal	1			on H ₂ O
1107	R Phal	1			"
1115	Gull sp	1			"
1115	Phal. sp	2	⊙		west? imm
1117	Phal sp	2	⊙		
1117	P. puffinus	1	⊙		
1120	Gull sp	1			imm, bill light, black tip
1200					resume obs 2 mi. off Cape San Lucas
1210	Black St. P.	1	⊙		
1211	Black T.	1	E		
1215	Mag Frig	1	⊙		
1224	Phal. sp	2	⊙		
1226	"	1	⊙		
1233	Black T.	1	⊙		on H ₂ O
1245	close observations				
1345	MAG. FRIG	1			resume
1345	Herring Cal.	3			ad ♀ following
1345	Gull	3			imm (1 st yr.)
1350	R. Phal	35			on H ₂ O on Natural slick
1351	Bl. St. Pet.	1	⊙		
1355	Black Pet	1	⊙		
1413	R Phal	1			on H ₂ O
1420	Phal sp	3			on H ₂ O
1423	"	1	E		on H ₂ O
1430	Phal sp	2			on H ₂ O
1440	"	1	⊙		
1445	close observations				



Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

Date 30 Nov '67
Pg.# 2

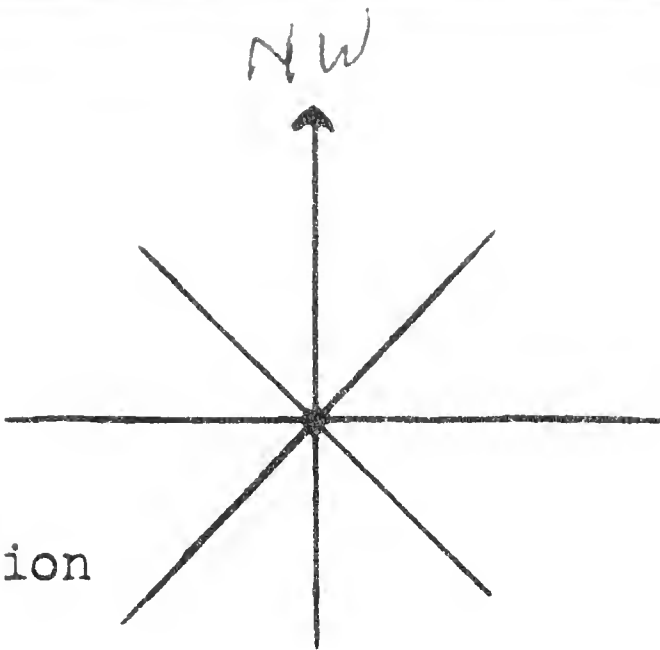
SPECIMEN
or

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
1545					Resume observations
T 1556					1 sea turtle
1601	R. Phal	1			on H ₂ O WP
1606	Black Tern	1	⊙		
1608	Least Pet	1	NE		
1614	R. Phal	1			on H ₂ O WP
1625	"	2			" "
1630					close

Total birds 79

Total hours 7.0

77



Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

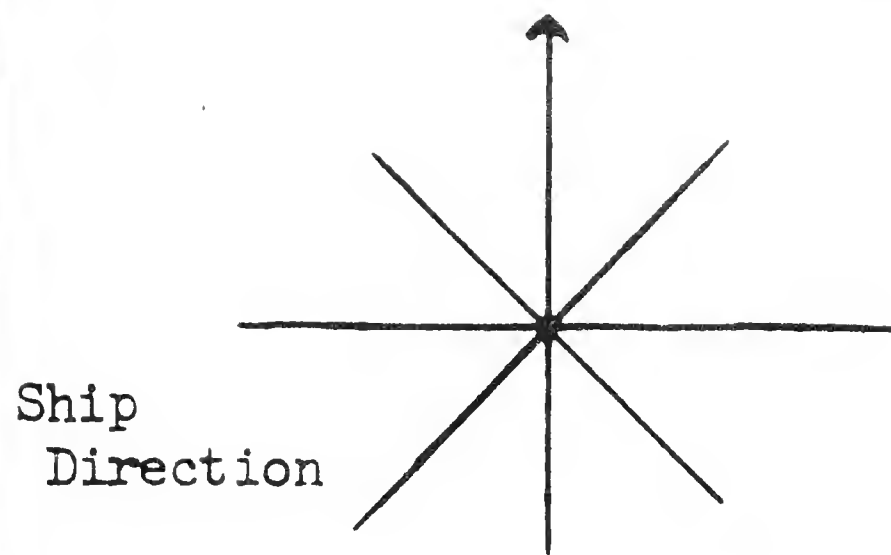
Date 01 Dec. 1967

Pg. #

1

SPECIMEN
or

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
0700					SUNRISE
0700	Mag. Eug.	1			Follow
0700	Gull, Herring	13			sub 2nd year follow Herring?
0700	Gull, Calif?	1			sub 1st year " Calif?
0705	Br. Pelic	1			Follow
0706	Pom J	1			dark on H ₂ O
0706	"	1	SE		LT
0712	Phal SP	3	E		
0800					wind 36 @ 20knt. Barom 30.02
0800	Phal AP	5	NE		19.8, 17.0: Clid Str. 90% seas N@6' w/period 04
0803	Pink-foot Wedgetail	1	NE		light
0820	"	1			
FF 0845	S/S/	5			LP
0845	Sabine Gull	2			LT
0850	Wedgetail Pom J	1/2			light
0851	Pink-foot Wedgetail	1			
0853	Pom J	3	SE		LT
54	"	1	SW		LT
55	BL Kitt	4			LP
56	Bonap. Gull	8			imm
57	S/S/L	3			ad, 6 imm.
58	shear/pet	3			WTS on Palefoot
0906	Pom J	1	SE		LP
0906	Sabine Gull	1			
0907	Pink-foot Pom J	1			LP
08	S/S/	1			
08	Pom J	1	NE SE		LP
09	"	1	SE NE		LP
10	Pink-foot	1	NE		LP
	Pom J	1	SE		LP
12	Pom J	1	SE		LP



Ship
Direction

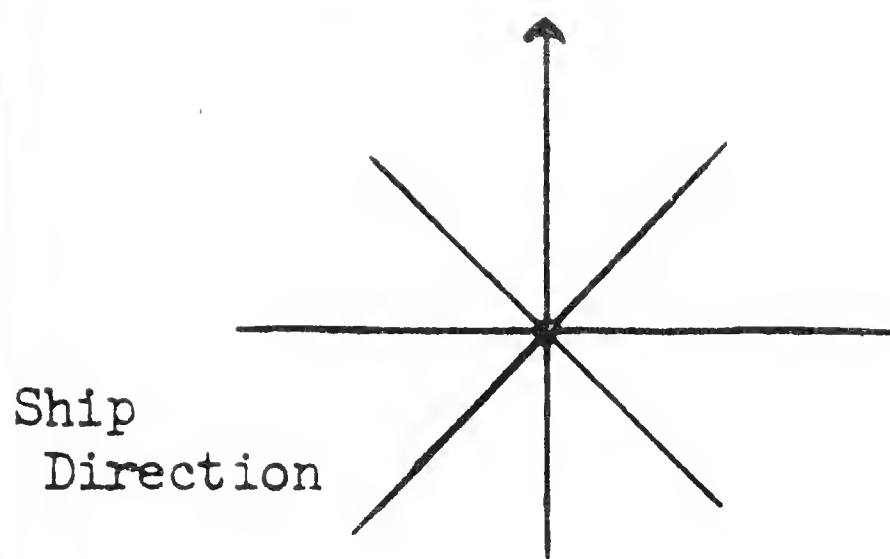
SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

Date 01 Dec '67
Pg. # 2

SPECIMEN
or

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
0918	H.G.	25			sub (95% 1st year) following
0925	BLK 2	2			imm
0927	Bonap G	6	SE		ad
0934	"	6			ad
0934	Phal sp	2			imm
0935	B G	1			ad
0940	B G	2	SE		imm
0940	Storm Pet	1			age U
0950	Pale-foot	1			
0952	Pom J	1	SE		LP
0952	Storm Pet	1			
0957	Least pel	1			
1018	Pale-foot	3	SE		
1020	Sabine Gull	1			
1021	Pom J	1			LP
1022	"	1			
1022	Least sp?	2			LP
1025	Herring G	5			SA
1027	Pale-foot	2			
1027	Storm pet	1			
1030	Pale-foot	4			
1035	W. Gull	4			imm following
1035	Herr / cal	11			SA
1035	Pom J	1	NW		LP
1045	B G	3	NW		2 ad, 1 imm
1048	B G	1	NW		ad
FF 1052	B G	5			
1100	Pale-foot	11			
1100	B G	7			ad
1102	Pale foot	2			
1112	Pom J	1	W		LP



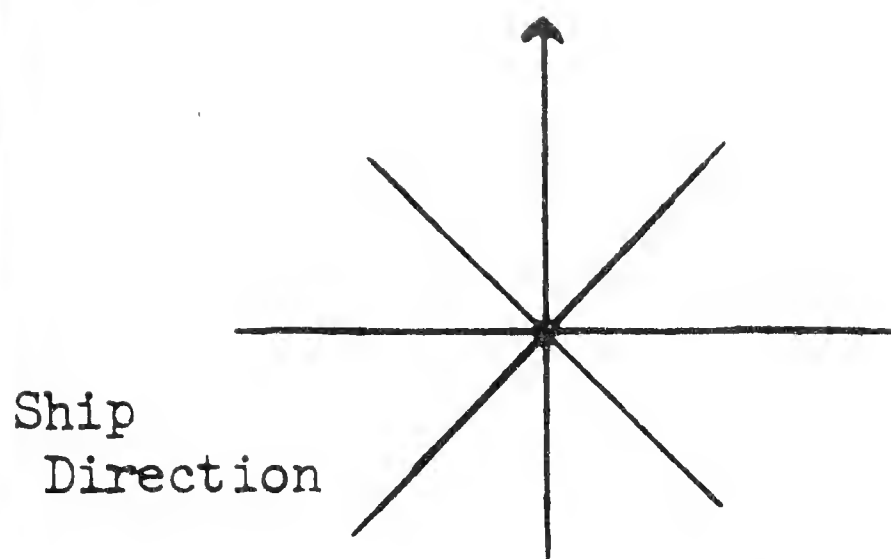
R/V Jordan
 Eastropac 50
 SMITHSONIAN INSTITUTION
 DIVISION OF BIRDS
 AT SEA DAILY LOG - E

OBSERVERS:

Date 12/1/67
 Pg. # 3

SPECIMEN
 or

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
1105	Pom J.	1	W		LT
FF 1110	P-f S	25	☉		
	Pom J	2	☉		dark
	BG	3			ad
	P. opisthote	3	☉		
FF 1115	P. opisthal.	2000 ± 500			
	Pale-foot	50 ± 10			
	Pink-foot	25 ± 5			
	Pom Jaeg.	75			pink - dark
	Delphinus	Porpoise			500 ± 100
	Br. Pelican	3			
	BG	5			ad
1120					close observations
1200					resume
1207	BG	7			on H ₂ O, all ad
1210	Storm Pet	2	HW		dark rump
1215	Phal. sp.	3	NE		
1218	P. opisthal	1	N		
1218	BG	1	☉		ad
1225	s/s/	1	SW		
1230					Baird's Dolphin ca 300
1231	P. opisth	3	☉		
1231	Black SP	2	☉		
	SPet. sp	1			small, dark rump.
1237					Baird Dolphin 500
1240	P. opith	1500 ± 300			
	Pale-f	15			
	Pink-f	2			
	Pom J	1			
	Br. Pelic	7			



Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

Date 12/1/67
Pg. # 4

SPECIMEN
or

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
1240	WG	2			ad
	Herr/calif	1			ad
1300					weather wind 10 from 36 Barom 30.02 Dry T: 18.8 Wet T: 17.2
1300	Storm Pet SP	5000			on H ₂ O Too far to identify. There were pale-foots among them.
1309	BG	1	⊙		ad
1310	BG	5			on H ₂ O Ad
1310	BG	3	⊙		
1315	Pale foot	1	NW		Ad
1319	P. opisth.	8	W		
1319	St. Pet	1	⊙		small, dr
1323	Bonap. G	5			ad on H ₂ O
1333	B G	18			ad on H ₂ O
1333	Phal sp	3	W		
1335	Pale-foot	3 3	⊙		
1335	Popith.	5	NE		
FF 1338	Boni Gull	10	⊙		}
	Sabine	1			
	P. opisth	7			
	Pale-foot	3			}
1338	Frigate sp	1	⊙		
1346	Least sp?	1	□		
1350					3 Striped Dolphin riding bow
1352	Black St. Pet	1	⊙		
1356	P. opisthal.	1			ALBINO
1411	"	1	⊙		
1430	H. G.	2			imm. following
1431	Pale-foot	3	⊙		

4067 F+S
3030 Phal

OBSERVERS:

Harrington

R/V JORDAN

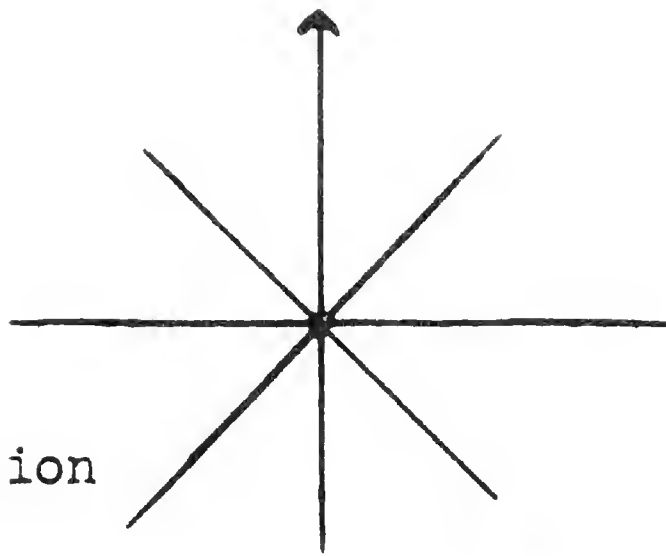
EASTROPAC

SMITHSONIAN INSTITUTION

DIVISION OF BIRDS

AT SEA DAILY LOG - E

Ship
Direction



SPECIMEN

OR

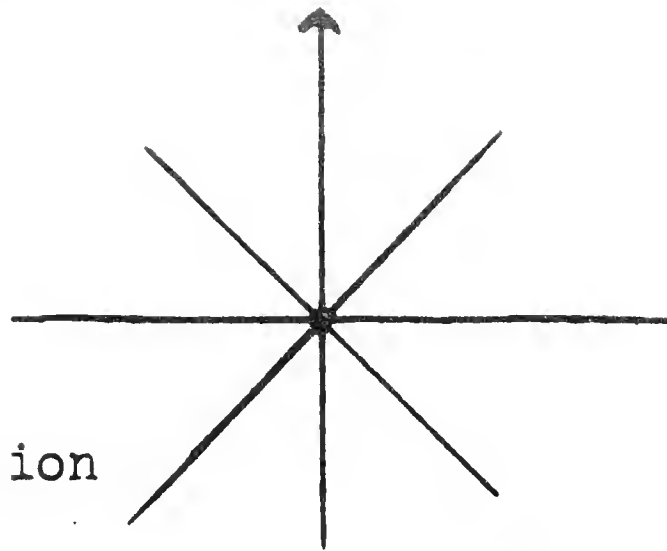
Date 12/1/67

Pg. # 5

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
1431	P. opisthal	2	NE		P.O. = puffinus opisthalemas
40	"	5	NW		
45	"	4	W		
50	"	8	W		
50	Sabine G	13	N		age ✓
51	P. O	10	NW		
53	B G	15	N		
58	R Phal	2			on H ₂ O
1504	P. O.	6	W		
1504	P. O.	1	W		
1515	P. O.	2	SE		
25	P. O.	5	E		
1530					close obs.

Total birds 9109
" hours: 7 and 50 min
Total miles: 78

Ship
Direction



SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

Date 02 Dec. 1967
Pg. # 1

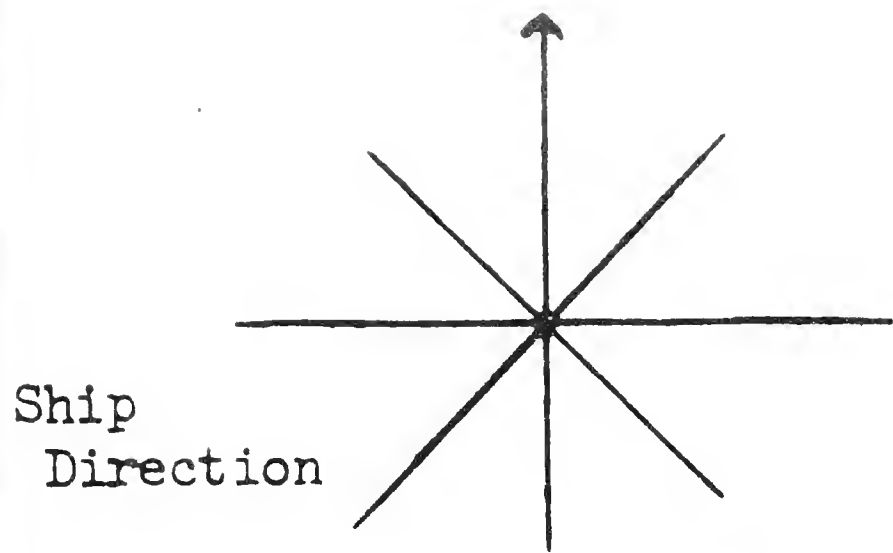
SPECIMEN

OR

TIME SPECIES # DIR. BAND NO. REMARKS

0830					Weather: WIND N@ 15knts. Barom 30.00
0840					Wet 13.9, 17.1 17.1 : Seas 5' from N, Swell WNW 6-10'
0853	Phal. sp.	1			Begin obs.
0900-15	H/Cas Gull	6			imm
		2			ad
0920	W. Gull	2			ad follow
0920	"	1			sub
0920	H Gull	1			sub following.
1100	Phal SP	1	(O)		wp
1120					Close obs.
1215					resume "
1225	Pale-foots.	1	(O)		
1240					
1245	Br. Pel.	1	(u)		sea lion
1300	Phal sp	1			on H ₂ O
1305	"	1			"
1305	W.G.	2			ad on H ₂ O
1315	"	3			" " "
1315	Pom J	1			chasing WG
1315	Br. Pel.	1	mw		
1317	s/s/	1	(O)		
1320					kelp starb
1335	Br. Pel	2	w		
1342	S/S/	250			
	Pale-f.	25			
	P.O.	1			
	Bonig.	3			ad
	W.G.	3			ad
	Phal sp	3			
	Sea lion	7			

Sonar



EASTROPAC 50
 SMITHSONIAN INSTITUTION
 DIVISION OF BIRDS
 AT SEA DAILY LOG - E

OBSERVERS:

Date 2 Dec '67
 Pg. # 2

SPECIMEN
 or

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
1346	Loon sp	1			being chased by pale-foot: Dove,
	Pale-f.	1			Palefoot return and harrassed more when
52	Br. Pel.	3			it surfaced.
	Scot/s/	8			
	Pale-f	4			
	H/cal G	1			
	WG	2			ad
55	Br. Pel	1			on the
	s/s/	8			
	p f	3			
	WG	1			ad
1400	B. Pelic	3	W		
1400					
1500					

Close obs.

Weather: Dry 27.2 wet 25.9 Barom 30.04
 Wind NW @ 05 sea 0
 Swell: NW 6' period 10
 Cloud 0

~~156~~ 155

Total birds 155
 Total hours 4 and 25 min
 Total miles of obs. 51

EASTERN AREA CRUISE NO. 26
(EASTROPAC Monitor Cruise)

SUMMARY OF EASTERN PACIFIC OCEAN BIRD OBSERVATIONS

16 October-03 December 1967
aboard the R/V D.S. JORDAN

Prepared
by

Brian Harrington

ITINERARY

16 October, 1967	1100 hours (+7 time)	Depart San Diego, Calif.
07 November	2359	Arrive Manzanillo, Mexico
10 November	1100	Depart Manzanillo
03 December	<u>ca.</u> 0200	Arrive San Diego

The following report summarizes bird and mammal observations conducted aboard the R/V DAVID STARR JORDAN during EASTROPAC Monitor Cruise No. 50 from 17 October to 03 December, 1967. During this period diurnal observations were maintained for 297.9 hours over 3465 nautical miles. A total of 14463 seabirds was recorded. No observations were made when the ship was "on station", and collections were restricted to times when they would not interfere with primary objectives of the cruise.

In this report the cruise track (see map one) has been divided into water-type areas (see map two) in order to facilitate discussion. These divisions are based primarily on oceanographic differences, but occasionally avian differences were used.

During October and November the distribution of birds within the area covered by the monitor cruise was quite graphic, but as little summarized data are available at present, no explanations beyond very crude correlations will be attempted. However the reader is urged to compare species densities and distribution carefully, especially for tropicbirds, Wedge-tailed Shearwater, and species in the genus Pterodroma. From these distributions it appears that the cruise track transversed rather prominent ecological zones, especially in the western portions of the cruise. Additional discussions pertaining to ecological factors will be included elsewhere in this report. For now it should be mentioned that few patterns of abundance were noted within a single species which could be correlated to specific oceanographic or biological data as available in crude form at the time of this report. This is not to say that such patterns did not exist, but rather is intended to suggest that they were obscured in some areas by the influence of various combinations of environmental variables as well as variable responses by different species to habitat changes.

METHODS

Observations were maintained from the flying bridge which afforded a 360 degree horizon and an excellent angle for identification of birds fairly close to the ship. Because I was the only P.O.B.S.P. observer aboard, it was not possible to maintain continuous binocular surveillance during all daylight periods. Thus sightings were largely of birds which could be seen with the unaided eye with binocular support only for identification. Hours of observation were limited to daylight periods when the ship was underway.

OCEAN WATER TYPES

Although the writer is not well versed in oceanography, the following discussion is attempted because the effect water types have on bird distribution is well known. Before any correlations are attempted a general discussion is prerequisite.

Probably the most graphic water type surveyed on this cruise was the North Equatorial Countercurrent. Although I am not certain of the boundaries, some of the oceanographic data suggest that on the western leg of the cruise the north boundary was at about $14^{\circ}43'N$ - $119^{\circ}10'W$. In this area there was a significant change of salinity and also the writer observed "a line of marked current activity" at about 1735 hours (local-+7) on 22 October.

The southern boundary of the North Equatorial Countercurrent was also indicated by a line of marked current activity. Oceanographic data also substantiated this observation with marked salinity and temperature changes having been recorded at $03^{\circ}59'N$ - $119^{\circ}10'W$.

Travelling eastward and then north along $112^{\circ}10'W$, the southern boundary of the countercurrent was again visually observed as well as substantiated by oceanographic data at $04^{\circ}53'N$. The northern boundary was not visually observed, and oceanographic data as available at present do not make the boundary unquestionably clear. However there were rather marked salinity and temperature changes near $15^{\circ}N$ - $118^{\circ}W$. Whether this was the countercurrent boundary or some other water type is not clear. Avian changes, however, suggest that it may have been the boundary and it is considered as such in this report.

On the remainder of the cruise the countercurrent boundaries were not visually observed. Oceanographic data suggested boundaries near $11^{\circ}N$ and between 1° and $2^{\circ}N$ along $105^{\circ}10'W$ longitude, and was somewhat confused along $098^{\circ}W$. These unclear definitions in the eastern portions of the survey area are not surprising as it is near the terminus of the North Equatorial Countercurrent and is also near the area where the eastward moving equatorial undercurrent breaks and diverts in the vicinity of the Galapagos Islands. Thus with the data available to the writer at present the water type boundaries in the eastern areas should remain indefinite.

COASTAL WATERS

The survey area along the Mexican coast between Manzanillo and Acapulco is separated for discussion purposes only, and is probably incorrectly considered a single water type. The oceanographic data collected on three five-hundred mile transects through the area are confusing and suggest several influences with upwelling probably being major.

Along the central and northern Baja coastline the California Current is without doubt the major influence. Although few oceanographic data were collected, the junction of the Current and southern water appears to have been off Magdalena Bay where high seas, high winds, and spectacular numbers of animals were recorded.

At the mouth of the Gulf of California no oceanographic data were collected. However, as the Gulf was approached from the southeast a distinct current line was crossed. This suggests that the vessel was entering a different water-type, which is a logical presumption in light of the known oceanography.

Off Cape San Lucas another water type was probably present, but no signs of a division were observed by the writer beyond slim suggestion by bird distribution.

The last major area of water being considered is that in the southern extremes of the survey area south of the North Equatorial Countercurrent. The water was characterized by high salinities and low temperatures and was probably the northern portion of the westward flowing South Equatorial Current.

One other portion of the survey area will be considered as another water type although insufficient oceanographic data were collected to justify such a separation. However, on the basis of bird distribution such a division seems reasonable. Thus the section of the western leg of the cruise between 15° and 28°N will be treated as a separate water type.

As mentioned above, the oceanographic characters of a water type are either directly or indirectly major factors in delineating species and density distribution of birds. Whether this holds true for migrants as well as resident birds will not be a concern in this report as there was little suggestion of migratory travel throughout the cruise. Thus it is felt that a correlation of distributions and water types would reflect the uninfluenced effect that water types have on the presumed resident birds. The divisions as established in the above discussions are shown in map 2; maps 3 and 4 show surface temperatures and salinities for additional reference, and table 2 shows the species breakdown for each area. Table 3 shows species habitat (water type) preference in a simplified form.

SPECIES ACCOUNTS

(Note: Only species for which there is additional information are listed below. See Tables for total avifauna.)

Procellaria sp.

A single bird which was probably a Black Petrel (Procellaria parkinsoni) "...bird all dark, light-colored bill (which was fairly short); body shape much like an albatross, wings shaped like an albatross. Flight was very distinctive, ...frequent twisting and turning, a rapid flight; smaller than a Black-footed Albatross, but (slightly) larger than a Pink-footed Shearwater; tail was quite short." An accompanying drawing of the underwing shows that it was all dark with a lighter area on the ventral tip.

Wedge-tailed Shearwater (Puffinus pacificus) 4 light and 1 dark phase collected

The distribution of this species was quite interesting, especially when compared to that of the Pterodroma (see maps 5 and 8). Perhaps more interesting, however, are the changes in color phase ratios on tracks transversed by the R/V UNDAUNTED in August-September and the R/V DSJ in October-November. In late August dark phase birds comprised 96 percent (N=132) of the birds along 105°W and 85 percent along 98°W. In November the light phase population was predominant by 8.5:1 in equivalent sections of the track. This change of color phase ratio clearly suggests that there are two Wedgetail populations in the Eastropac area at some times of the year, and that one of these populations had left the area by October-November. In other Eastropac reports it has been suggested that many of the Wedgetails in the survey area are from the Hawaiian group; the information from this cruise further substantiates this hypothesis. Slight additional suggestion may be found from the few specimens of Wedgetails which were collected during this cruise. As the Hawaiian population is now breeding we would expect that any remaining in the eastern area during October-November would be subadults or nonbreeding birds. This is what was noted in the five specimens collected.

The distribution of Wedgetails in the survey area (see tables 2 and 3) suggested that the October-November population favored the eastern portion of the North Equatorial Countercurrent with none being recorded below the southern boundary and only one north of the boundary in pelagic portions of the track. A few additional birds were seen within 500 miles of the Mexican coast.

Pale-footed Shearwater (Puffinus creotopus)

Pale-foots were rarely seen in pelagic waters. Along the coast they were seen uncommonly except off northern Baja where they were common.

Christmas Shearwater (Puffinus nativitatis)

A single bird travelling southwest was seen at the edge of a rain squall on the fourteenth of November, along 98°W.

Common Shearwater (Puffinus puffinus)

What were believed to have been two subspecies were seen during the course of the cruise. Most abundant was P.p. opisthalemas which was seen by the thousands off the northern Baja coast. What was believed to have been another subspecies was seen along the Mexican coast and at the mouth of the Gulf of California. It was the writer's impression that these birds were much blacker on the back than their northern counterparts.

Farther to sea the Common Shearwater was rare. Their subspecific identification should remain open to question as it is possible some could be Newell's Shearwater from the Hawaiian Islands.

Sooty and Slender-billed Shearwater (Puffinus griseus and P. tenuirostris)

Because these two species are easily confused all sightings were called Sooty/Slenderbills. However, of the few birds that were seen well, none were Slenderbills.

Most of the sightings (excepting those off the Baja Peninsula) were of birds gravitating towards the southeast.

Juan Fernandez Petrel (Pterodroma externa) 6 collected

All of the birds which were seen well were identified as the subspecies externa and the writer is convinced that there were no cervicalis in the area. The distribution was somewhat confusing, but increasing abundance from east to west was evident, especially in the countercurrent area where the highest densities for the cruise were recorded. Although Wedge-tailed Shearwaters were present and most abundant in the same area, a day to day comparison of ratios demonstrates that there was little correlation of numbers between the two species. That the two have different ecological requirements may also be inferred from a comparison of the eastern distribution within the survey area. Whereas Wedge-tails were found along the easternmost portions of the track, no P. externa were seen east of 105° west longitude. Further suggestion of ecological requirements may be inferred from the north-south distribution of the two species. Virtually no Wedge-tails were seen south of the southern border of the North Equatorial Countercurrent, whereas Juan Fernandez Petrels were seen as far south as the cruise track went.

Six specimens of Juan Fernandez Petrels were collected along the westernmost portion of the cruise. All were of nonbreeding age, had heavy body molt, and were in a light fat condition.

Cook's Petrel (Pterodroma cookii)

A few birds of this species were seen about three hundred miles west of Baja in mid-October. Although only a few were seen, there was some suggestion that they were in southeasterly migration.

Black-winged Petrel (Pterodroma hypoleuca nigripennis)

A total of 34 birds was identified as this subspecies between five and fifteen degrees north latitude on the western leg of the cruise. There was no suggestion that they were migrating.

It is interesting and perhaps significant that the range met but did not overlap the range of the White-winged Petrel (P. leucoptera) recorded on the survey. It is also significant (?) that no hypoleucans of the subspecies hypoleuca were recorded on this cruise; they were said to have been present in approximately the same area in August-September.

White-winged Petrel (Pterodroma leucoptera)

Although never a common bird on this cruise, White-wings were regularly sighted on the western half of the track area below the north boundary of the North Equatorial Countercurrent. What were believed to have been two different subspecies were recorded. Most common was P. l. masafuera(?) which was seen regularly in the eastern three quarters of the Countercurrent as well as in waters to the south of the current. What were believed to have been P. l. brevipes were seen on the western leg, north of the range of masafuera. Although the writer is not certain of the subspecific assignment the two forms were given, he is sure that no less than two subspecies were seen. The ones to the south were surprisingly uniform in appearance. The birds were characterized by a very dark head and nape, with a markedly lighter back which had a very prominent "W" pattern. The underwings were white with thick black borders. Most striking however, was an incomplete collar down the side of the upper breast which was almost black. The leucopterans to the north had an interrupted gray collar with indistinct margins; they also had a thinner black border on the underwings than their southern counterparts.

Because there is considerable confusion in the writer's mind as to where which forms of leucoptera breed, the subspecies assigned to the above forms may be in error. I am quite certain that the few I called brevipes were in fact brevipes, but the subspecific identifications of the southern form should remain open to question.

Phoenix Petrel and Tahitian Petrel (Pterodroma alba and P. rostrata)

Because these two species may be confused, all sightings were recorded as Phoenix/Tahitian Petrels. However, the writer feels that both species were present in the area with the Phoenix being the more common of the two. Neither bird was common, however. Virtually all of the sightings were between 10° and 5° north latitude. The habitat preference appeared to be similar to that of the Juan Fernandez Petrels.

Kermadec Petrel (Pterodroma neglecta)

Compared to the August-September cruises there were very few birds of this species present in the EASTROPAC area. Both light and dark phase birds were seen.

Murphy's Petrel (Pterodroma ultima)

There was no bird seen on this cruise which could positively be identified as this species. However, a single bird seen sitting with about 50 storm petrels on 23 October was suspected to be a Murphy's Petrel.

Harcourt's Storm Petrel (Oceanodroma castro)

A total of 39 birds believed to have been this species was seen throughout the cruise. However, because of the difficulty in identifying the dark storm petrels, there were probably many more which were recorded only as white-rumped storm petrels. The distribution of those which were identified

suggests that low numbers may be found north of the southern boundary of the North Equatorial Countercurrent, and very few to the south. Harcourt's were also very scarce within 400 miles of the coast.

Leach's Storm Petrel (Oceanodroma leucorhoa) 1 collected

This was the most widely distributed species on the cruise; they were seen commonly in virtually all areas except close to shore. The white-rumped forms were the only color phase throughout the cruise except near Guadalupe Island where dark-rumped forms were seen regularly.

The distribution of Leach's was irregular although widespread. Generally it was suspected that over most of the survey the birds were residents. However, between 15° and 25° North on the western track there was some suggestion that many of the sightings were of migrants. Small flocks were seen frequently, and there was also slight suggestion of a southeasterly movement.

Galapagos Storm Petrel (Oceanodroma tethys)

This was the most easily identified white-rumped storm petrel seen on the cruise. Thus it is felt that most which were seen were recorded to species and that few of those birds recorded as "white-rumped storm petrels" were of this species.

The distribution of O. tethys appeared to be restricted to areas near the Galapagos Islands; only a few were seen more than 500 miles to the west.

Although crude allowances were made, it is possible that the densities recorded in tables of this report may be somewhat inaccurate as it was not possible to determine how long individuals followed the ship. Regardless, the observations did indicate that the species was more common to the west than to the northwest or southwest of the breeding islands.

Black Storm Petrel (Loomelania melania)

During October-November this was found to be a coastal species within the cruise area. All sightings were south of central Baja Peninsula.

Least Storm Petrel (Halocyptena microsoma)

What few birds were seen were within the range of the Black Storm Petrel.

Loon (Gavia sp.)

A single unidentified loon was seen off Northern Baja on 2 December; it was being harassed by a Pale-footed Shearwater.

Brown Pelican (Pelicanus occidentalis)

This species was seen only off Northern Baja and in the harbour at Manzanillo.

Red-billed Tropicbird (Phaethon aethereus)

Red-bills were never recorded commonly on the cruise. The distribution was irregular and seemed to be influenced by the proximity of land as well as by water type. Sightings were most frequent in the coastal waters with all the remaining being south of the equator west of the Galapagos.

Red-tailed Tropicbird (Phaethon rubricauda) 2 collected

All sightings were in the western half of the survey area with highest densities between five and fifteen degrees North. Virtually every bird seen was a subadult (based on bill and plumage characters) and only one immature (less than one year old) was seen. No Red-tails were seen along 105 West where several were seen in August.

Blue-faced Booby (Sula dactylatra)

The observations on this cruise suggested that this is a land-oriented species in the EASTROPAC area as all of the sightings were within 400 miles of the coast.

Brown Booby (Sula leucogaster)

Apparently a rigidly land-oriented species at this season. At the peripheral portions of the species range both immatures and subadults were more common than adults. Along the coast the adults were abundant with many sightings of flocks flying out from the shore in the early morning hours.

Red-footed Booby (Sula sula)

Like the other boobies, the Red-foots also appeared to be a land-oriented species. Highest numbers were recorded in the eastern half of the cruise area, and most were north of 10°.

Frigatebirds (Fregata sp.)

Recorded only in low numbers throughout the cruise except on 22 November when over 30 were seen in a large mixed flock just before sunset. Unfortunately I was not able to identify any of the frigates to species.

Phalaropes (Phalaropus fulicarius and Lobipes lobatus)

Both Red and Northern Phalaropes were seen commonly along the southern coastal portions of the cruise. In pelagic portions both species were recorded only rarely.

Jaegers (Stercorarius pomarinus, S. parasiticus, and S. longicaudus)

All three species of jaeger were identified with Pomarine being the most common by a large margin. As is usually the case with jaegers, the distribution indicated a preference for coastal waters with highest occurrence in areas where overall bird density was high.

Western Gull (Larus occidentalis)

Adults and immatures were observed along the east shore of Guadalupe Island and off the north coast of Baja California.

Herring and California Gulls (Larus argentatus and L. Californicus)

Immatures were seen along the Baja coast as far south as Cape San Lucas; adults were seen only to the north of Magdalena Bay.

Bonaparte's Gulls (Larus philadelphia)

Seen almost exclusively off Magdalena Bay on 1 December. During the early morning immatures were seen in a ratio of 2 to 3 adults (N=29), but during the late morning and afternoon no immatures were seen among the 56 for which age was observed.

Black-legged Kittiwake (Rissa tridactyla)

Seen in low numbers off Magdalena Bay.

Sabine's Gull (Xema sabini)

Seen most commonly on 1 December off Magdalena Bay, but also seen along the coast as far south as Acapulco.

Sooty Tern (Sterna fuscata)

In terms of numbers this was the second most abundant species identified on the cruise. However, most of the birds in the tally were in flocks, and the number of sightings was small. Both adults and immatures were seen in a 400 mile wide band between Clipperton and the Galapagos Islands, but no immatures were recorded on other portions of the cruise. The Sooties off Manzanillo and at the mouth of the Gulf of California were in fresh plumage with long tail feathers suggesting that they were nonbreeding birds. Elsewhere no adults were seen well enough to determine the plumage condition.

ADDITIONAL BIRD OBSERVATIONS

A distant flock of ca. 5000 birds believed to have been storm petrels was seen off Magdalena Bay, Baja Peninsula. Because this sighting was unique and its reliability questionable, it has not been included in this report excepting in the overall tally of seabirds in the introduction, and in table 1.

Landbirds

Landbirds were seen frequently on some parts of the cruise. A summary may be found in table 4.

MAMMAL SIGHTINGS

Mammals were scarce during the cruise; a summary of sightings is

TABLE 1. Daily Summary of Eastropac '50 Bird Sightings

[illegible]

Table 1 (cont'd)

Species	Oct. 17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Nov. 01	02	03	04	05	06	07
Red Phalarope	6	1								1												1
Northern Phalarope										1												19
Phalarope sp.										0												
Pomarine Jaeger	1		1													1						2
Parasitic Jaeger	1															1						
Long-tailed Jaeger								1									1					
Jaeger sp. Jaeger	2	1					2				2					2	2	1				12
Gull sp	1																					
Western Gull		10																				
Herring/California Gull																						
Sabine's Gull																						3
Black-legged Kittiwake																						
Bonaparte's Gull																						
Common/Arctic Tern	2			2	2																	
Sooty Tern							5		16		2						74		3	42	6	176
Least Tern?																						
Black Tern																						1
White Tern											1											
Brown Tern								1														
Tern sp.																						7
Land bird sp.	6	20				1	26														1	
Shorebird sp.		2																				
Bird sp.								1							1							
Total Birds (seabirds)	37	26	49	13	27	52	247	365	66	51	42	12	25	36	18	47	423	29	44	210	24	270
Total Miles	86	84	117	82	81	75	90	50	80	85	90	85	102	109	83	90	95	89	89	84	81	83
Total Hours	8.5	7.7	8.3	7.0	7.6	6.8	7.3	5.0	7.8	6.8	7.5	7.7	9.3	10.2	6.6	7.3	6.4	7.5	5.7	7.3	6.7	6.8
Birds/linear mile	.50	.31	.42	.16	.33	.69	2.74	7.30	.83	.60	.47	.14	.25	.33	.22	.52	4.45	.33	.49	2.50	.30	3.25

*Light phase
(Dark phase)

Table 1 (cont'd)

Species	Nov. 11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	01	02
Loon Sp.																						1
Procellaria Sp.										1												
Dark-rumped Petrel																						
Pterodroma externa					7																	
Phoenix/Tahitian					1								2									
Kermadec Petrel				1									1	1								
Murphy's Petrel																						
Pterodroma leucoptera (a)																						
Pterodroma leucoptera (b)					9						1	7	10									
Pterodroma hypoleuca																						
Pterodroma cookii													5									
Large Pterodroma																						
Small Pterodroma													3									
*Wedge-tailed Shearwater	1		33(5)	33(3)	5(4)							8(3)	33(4)	21(2)	3	2						
Pale-footed Shearwater			2									1			2		5				129	33
Pink-footed Shearwater																						
Sooty/Stomperbill		1	1		2							1									20	67
Christmas I. Shearwater				1																		
Common (Manx) Shearwater	2		2										1		2	2	2	2	103	1	3572	1
Shearwater/Petrel			4	1	13							31	3								3	
Harvard's Storm Petrel		1		1	4			1		4	1	2										
Leach's Storm Petrel		2	16	14	7	1	4	16	17	15	7	15	11	11	1							
Galapagos							3		1	6	41	12	8	3								
Black	1		2																21	9	3	
Least																				1	3	
White-rumped Storm Petrel		19	31	23	5		4	14	31	18	5	1	10	10	1							
Storm Petrel sp.	2	5		1	3		6	1	1			1	2	6	2				6		5052	
Red-tailed Tropicbird	1		2						1	1												
Red-tailed Tropicbird																						
Tropicbird sp.							1															
Booby																					11	11
Black-footed Booby		1	2	1									1	1	4	22	10					
Booby	17	1														1	15	107	65			
Red-footed Booby		8	23									5		1	3	4	1					
Booby sp.	1	1													1	1	1					
Frigatebird sp.						2					4	33					2		1	2	2	

Table 1 (cont'd)

4

Species	Nov. 11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	01	02
Red Phalarope		3		2				1				1			1	33	1			42	2	
Northern Phalarope	10	2										1			11	183	2	2	4			
Phalarope sp.		2													12	121	9	4	69	16	15	7
Pomarine Jaeger	2	7	8	7								2	1	7	8	1	9	4			104	1
Parasitic Jaeger																	1					
Long-tailed Jaeger									1													
Jaeger sp. Jaeger	1	2	1		2										2				1			
Gull sp																				3		
Western Gull																					6	14
Herring/California Gull																					58	10
Sabine's Gull	3																	1	5		5	
Black-legged Kittiwake																					6	
Bonaparte's Gull																					117	3
Common/Arctic Tern																						
Sooty Tern	2	3		3	157	1	1					202	10	50					61			
Least Tern?																						
Black Tern																						
White Tern																78	25	70	204	3		
Brown Tern														2								
Tern sp.	4																					
Land bird sp.	1	1															23	2	180			
Shorebird sp.																						
Bird sp.																						
Total Birds (seabirds)	47	98	132	91	219	4	19	33	52	45	59	326	105	308	53	448	106	192	720	77	9108	148
Total Miles	37	87	84	85	82	30	78	87	75	90	80	50	78	83	69	53	68	52	72	77	87	51
Total Hours	3.3	7.4	7.5	7.3	6.8	3.0	7.3	8.0	8.3	6.6	6.5	4.8	6.4	5.7	6.1	5.7	5.7	4.1	6.3	7.0	7.8	4.5
Birds/linear mile	1.30	.67	1.57	1.07	2.67	.13	.24	.38	.69	.50	.74	6.52	1.35	3.71	.77	8.45	1.56	3.69	10.00	1.00	104.7	2.9

*Light phase
(Dark phase)

14,463 Seabirds
58 "Landbirds"
14,521 Birds

presented in table 5. The identification of many of the sightings should be considered as having been uneducated guessing. For instance, all the whales listed as Bryde were originally identified as either Finback or Humpback, and were later changed to Bryde after consulting references. Those animals called Stenella coeruleoalbus were called such by a process of elimination. The remaining mammal sightings are considered to be accurate.

TABLE 2. Water-type Breakdown of Species Distribution on EAC 26 Eastropac 50.

	Section A*	Section B ₁	Section B ₂	Section B ₃	Section B ₄	Overall Average Sections B ₁ - B ₄
Loon sp.						
Procellaria sp.						
Dark-rumped Petrel			1 .003			1 .001
<u>Pterodroma externa</u>	5 .014	292 1.12	196 .563	7 .036	0	495 .490
Phoenix/Tahitian Petrel		3 .015	1 .003	1 .005	2 .009	7 .007
Kermadec Petrel	1 .003	0	1 .003	1 .005	2 .009	4 .004
Murphy's Petrel		1 .004				1 .001
<u>P. leucoptera brevipes</u>		4 .015	1 .003	0		5 .005
<u>P. leucoptera masafuerae</u>			6 .017	9 .046	17 .081	32 .032
<u>P. hypoleuca</u>	1 .003	33 .127				33 .033
<u>P. cookii</u>	3 .011		1 .003		5 .024	6 .006
Wedge-tailed Shearwater	1 .003	121 .465	44 .126	45 .228	264 1.251	474 .468
Pale-footed Shearwater			1 .003		1 .005	2 .002
Pink-footed Shearwater						
Sooty/Slenderbill		1 .004	3 .009	2 .010	1 .005	7 .007
Christmas Shearwater					1 .005	1 .001
Common (=Manx) Shearwater		1 .004	4 .012		1 .005	6 .006
Harcourt's Storm Petrel	7 .020	10 .038	4 .012	5 .025	2 .009	21 .021
Leach's Storm Petrel	46 .133	51 .196	21 .060	22 .112	37 .175	131 .129
White-rumped Storm Petrel	39 .113	119 .458	78 .227	28 .142	21 .100	246 .243
(unidentified)						
Galapagos Storm Petrel					23 .109	23 .023
Black Storm Petrel						
Least Storm Petrel						
Red-billed Tropicbird						
Red-tailed Tropicbird	3 .011	7 .027	14 .040			21 .021
Brown Pelican						
Blue-faced Booby	1 .003		4 .012	1 .005	2 .009	7 .007
Brown Booby						
Red-footed Booby	1 .003				6 .028	6 .006
Frigatebird sp.			1 .003	2 .010	33 .156	36 .036
Red Phalarope			2 .006		1 .005	3 .003
Northern Phalarope						
Phalarope sp.	1 .003				1 .005	1 .001
Pomarine Jaeger	1 .003			7 .036	11 .052	18 .018
Parasitic Jaeger						
Long-tailed Jaeger		1 .004	1 .003			2 .002
Jaeger sp.		2 .008	3 .009	2 .010		7 .007
Gull sp.						

* see map 2

Table 2 (cont'd)

	Section A*	Section B ₁	Section B ₂	Section B ₃	Section B ₄	Overall Average Sections B ₁ - B ₄
Western Gull						
Bonaparte's Gull						
Sabine's Gull						
Black-legged Kittiwake						
Brown Tern		1 .004				1 .001
Common/Arctic Tern	4 .012					
Sooty Tern		21 .081	119 .342	161 .817	262 1.241	563 .557
Least Tern?						
Black Tern						
White Tern					2 .009	2 .002
Total Birds	114	668	506	293	695	2162
Average Density	.331	2.569	1.454	1.487	3.293	2.127
Total Miles	345	260	348	197	211	1016

* See map 2.

Table 2 (cont'd)

	Average Sections C ₁ -C ₃	Average Sections C ₄ -C ₆	Average Sections D ₁ -D ₄	Section E	Section F	Sections G ₁ -G ₂
Loon sp.						1 .002
Procellaria sp.		1 .002				
Dark-rumped Petrel						
Pterodroma externa	62 .100					
Phoenix/Tahitian	2 .003					
Kermadec Petrel	1 .002					
Murphy's Petrel						
P. leucoptera brevipes						
P. leucoptera masafuerae	27 .043	1 .002				
P. hypoleuca						
P. cookii						
Wedge-tailed Shearwater			47 .073			
Pale-footed Shearwater			9 .014			162 .339
Pink-footed Shearwater						25 .052
Sooty/Slenderbill			3 .005			87 .182
Christmas Shearwater						
Common(=Manx) Shearwater			27 .042	104 1.519		3573 7.474
Harcourt's Storm Petrel	4 .006	6 .015	1 .002			
Leach's Storm Petrel	36 .058	59 .144	23 .035			22 .046
White-rumped Storm Petrel	50 .081	72 .176	57 .088			1 .002
Galapagos Storm Petrel	51 .082					
Black Storm Petrel			24 .037	5 .666	3 .103	3 .006
Least Storm Petrel					1 .030	3 .006
Red-billed Tropicbird	1 .002	2 .004	3 .005			
Red-tailed Tropicbird	2 .003					
Brown Pelican						22 .046
Blue-faced Booby			41 .063			
Brown Booby			194 .300	18 .240		
Red-footed Booby			43 .066			
Frigatebirds sp.		4 .010	2 .003	1 .013	2 .069	2 .004
Red Phalarope	1 .002	1 .002	39 .060			7 .015
Northern Phalarope	1 .002		231 .358	2 .027		
Phalarope sp.			208 .322	9 .120	16 .552	22 .046
Pomarine Jaeger	1 .002		41 .063			106 .222
Parasitic Jaeger	1 .002		1 .002			1 .002
Long-tailed Jaeger		1 .002				3 .006
Jaeger sp.	4 .006		18 .028			3 .006
Gull sp.					3 .103	98 .205
Western Gull						30 .063
Bonaparte's Gull						120 .251

Table 2 (cont'd)

	Average Sections C ₁ -C ₃		Average Sections C ₄ -C ₆		Sections D ₁ -D ₄		Section E		Section F		Sections G ₁ -G ₂	
Sabine's Gull											5	.010
Black-legged Kittiwake											6	.013
Brown Tern												
Common/Arctic Tern											2	.004
Sooty Tern	2	.003	1	.002	187	.289	61	.813				
Least Tern?					205	.317						
Black Tern					378	.585			3	.103		
White Tern					1	.002						
Total Birds	246		148		1783		200		28		4304	
Average Density		.396		.360		3.628		3.750		1.035		11.105
Total Miles	621		410		647		75		29		478	

Table 3 :[#] Figures Showing Relative Abundance of Birds within Species Groups
in Different Water Types *

Water Type	average						C1-3	C4-6	D1-4	E	F	G	Size of sample
	A	B1	B2	B3	B4	B							
<i>Pterodroma externa</i>	+	5	2	1	0	2	+	0	0	0	0	0	562
Phoenix/Tahitian Petrel	0	4	1	1	2	2	1	0	0	0	0	0	9
Kermadec Petrel	1	0	1	2	3	2	1	0	0	0	0	0	6
<i>Pterod. leucoptera</i> (a)	0	7	1	0	0	2	0	0	0	0	0	0	5
<i>Pterod. leucoptera</i> (b)	0	0	1	2	4	1	2	+	0	0	0	0	60
<i>Pterod. hypoleuca</i>	+	8	0	0	0	2	0	0	0	0	0	0	34
<i>Pterod. cookii</i>	3	0	1	0	5	1	0	0	0	0	0	0	9
Wedge-tail Shearwater	+	2	+	1	5	2	0	0	+	0	0	0	522
Pale-foot Shearwater	0	0	+	0	+	+	0	0	+	0	0	9	173
Sooty/Slenderbill	0	+	+	+	+	+	0	0	+	0	0	8	97
Common Shearwater	0	+	+	0	+	+	0	0	+	2	0	8	3710
Harcourt's Petrel	1	3	1	2	1	1	+	1	+	0	0	0	39
Leach's Petrel	1	2	+	1	2	1	+	1	+	0	0	+	317
WRSP (Unidentified)	1	3	1	1	1	1	+	1	+	0	0	+	465
Galapagos storm pet.	0	0	0	0	5	1	4	0	0	0	0	0	74
Red-billed Tropicbird	0	0	0	0	0	0	2	4	5	0	0	0	6
Red-tailed Tropicbird	1	3	4	0	0	2	+	0	0	0	0	0	26
Blue-face Booby	+	0	1	+	1	1	0	0	7	0	0	0	49
Brown Booby	0	0	0	0	0	0	0	0	6	4	0	0	212
Red-foot Booby	+	0	0	0	3	1	0	0	6	0	0	0	50
Frigatebird sp.	0	0	+	+	5	1	0	+	+	+	2	+	47
Pomarine Jaeger	1	0	0	1	1	+	+	0	2	0	0	6	167
Parasitic Jaeger	0	0	0	0	0	0	3	0	3	0	0	3	3
Long-tail Jaeger	0	2	2	0	0	1	0	1	0	0	0	4	6
Jaeger sp.	0	1	1	1	0	1	1	0	4	0	0	1	32
Sooty Tern	0	+	1	2	3	1	+	+	1	2	0	0	814

* NOTE: Excepting the last column, the numbers in this table in no way reflect the actual number of birds recorded. Instead they suggest the relative abundance within a species seen from section to section regardless of the order of magnitude.

The sections used in this table are the same as for table 2. (see map 2)

+ Indicates species present in very low numbers compared to other areas. In areas where none were seen a "0" was recorded.

TABLE 4. Occurrence of "Land birds" At Sea, October-November 1967

	Oct. 17	Oct. 18	Oct. 22	Oct. 23	Nov. 06	Nov. 11	Nov. 12	Total
Mourning Dove	1	1						2
Ruby-crowned Kinglet	1							1
Savannah Sparrow	1							1
White-winged Dove	1							1
Red-winged Blackbird	1							1
Myrtle Warbler	1							1
"Peep" Sandpiper	0	2						2
Tri-color Heron	0	1						1
"Puddle Ducks"	0	17						17
Sparrow Hawk	0	1						1
"twitbird" (unidentified)	0	0	1	1				2
Pintail				25				25
Barn Swallow	0	0	0	0	1	1	1	3
	6	22	1	26	1	1	1	58

TABLE 5. Eastropac Marine Mammal Sightings (October-December 1967)

[illegible]

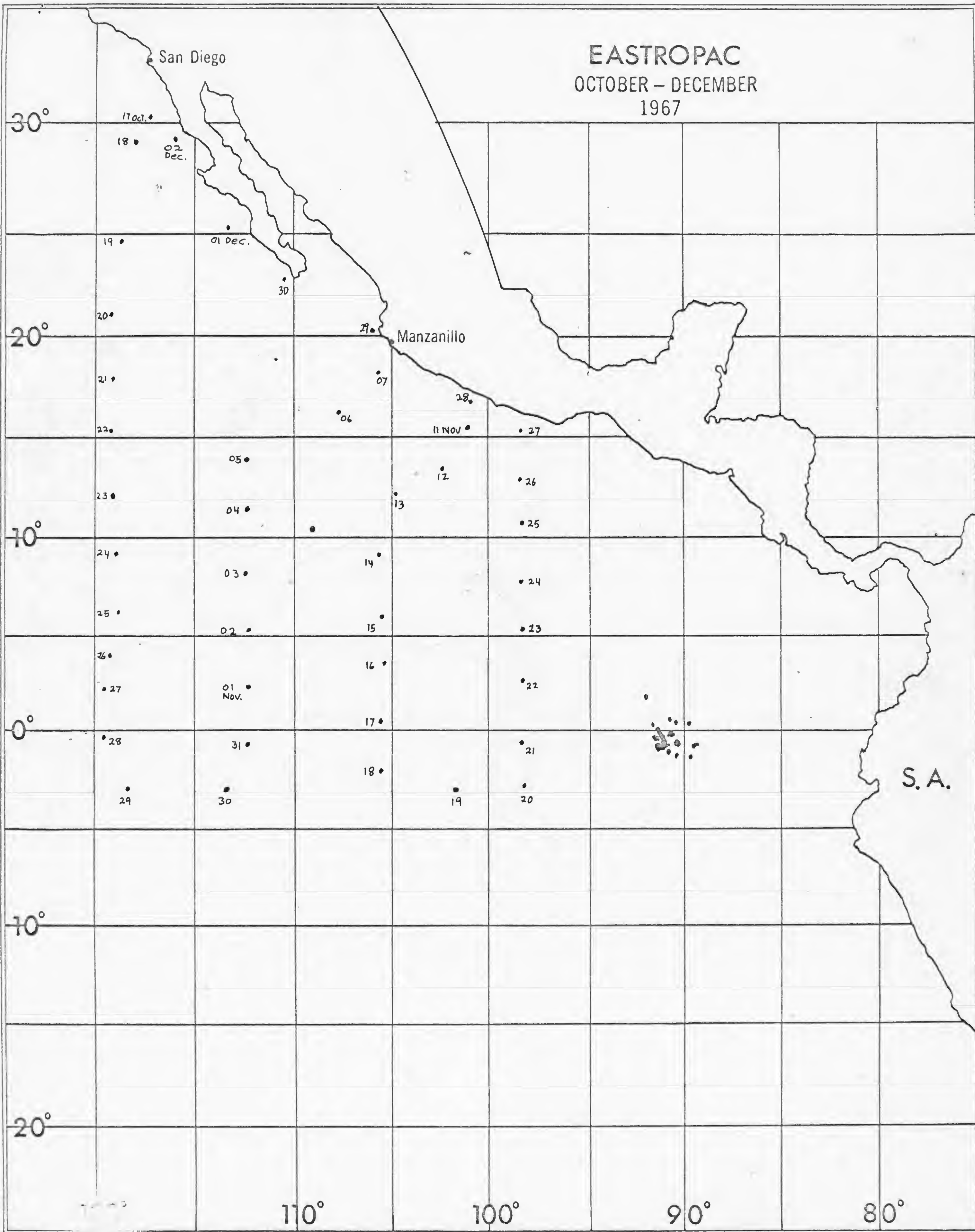
TABLE 6. Summary of Daily Observations

Section	Overall											
	A	B ₁	B ₂	B ₃	B ₄	B	C ₁ -C ₃	C ₄ -C ₆	D ₁ -D ₄	E	F	G
Number of Miles	345	260	348	197	211	1016	621	410	647	75	29	478
No. of Hours	28.6	24.7	25.6	17.1	16.9	84.3	53.2	36.7	56.0	5.7	2.5	30.9
No. of Birds	122	724	699	314	739	2476	250	208	1850	218	62	9277
No. of Flocks*	2	12	15	4	7	38	1	3	27	4	0	20
Average # birds/flock	5	14.7	35.2	47.5	79.3	44.2	6.0	7.0	40.7	42.5	0	450.3

* Seabirds only, excludes phalaropes

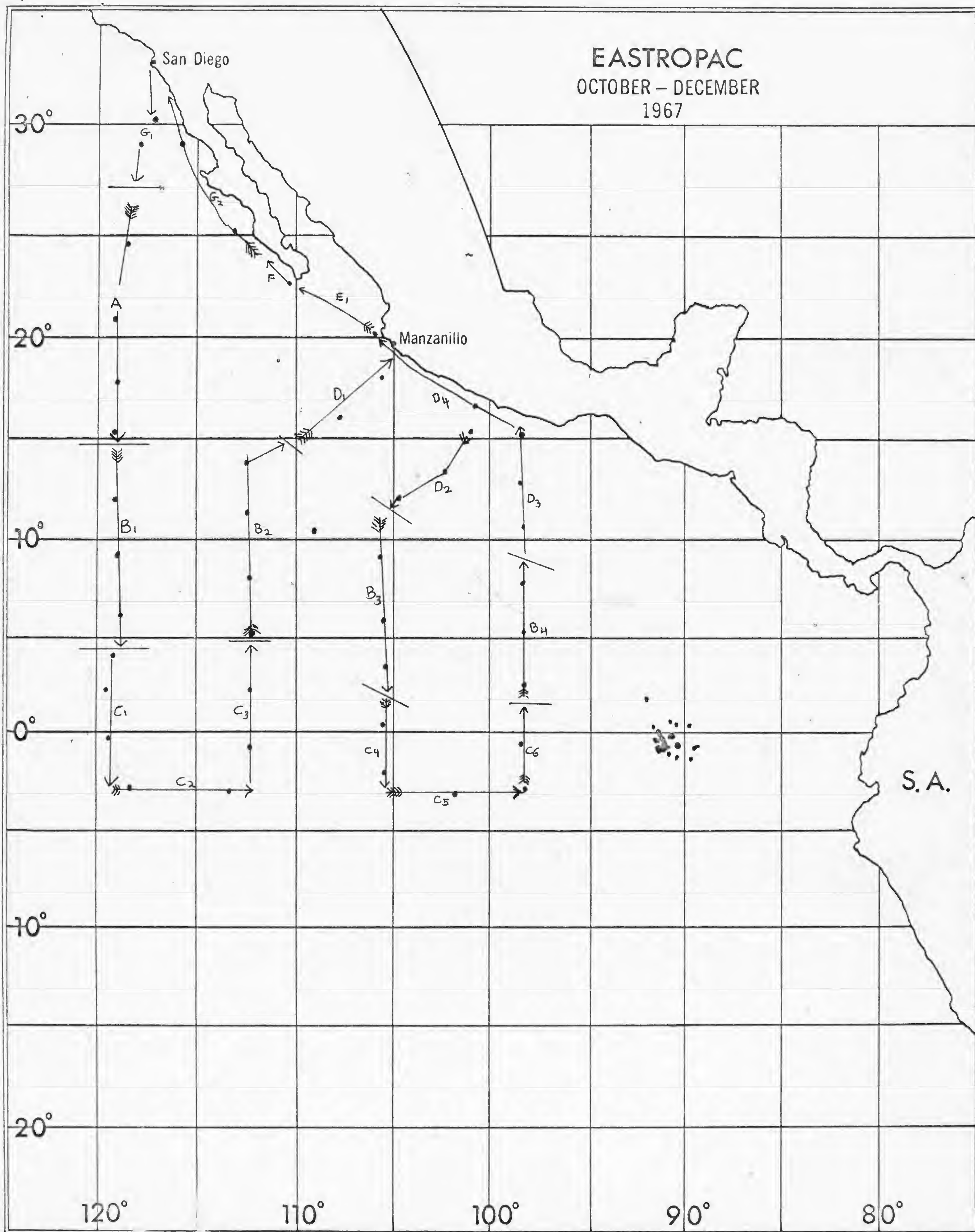
EASTROPAC

OCTOBER - DECEMBER
1967



Map 1: Noon Positions on EAC 26

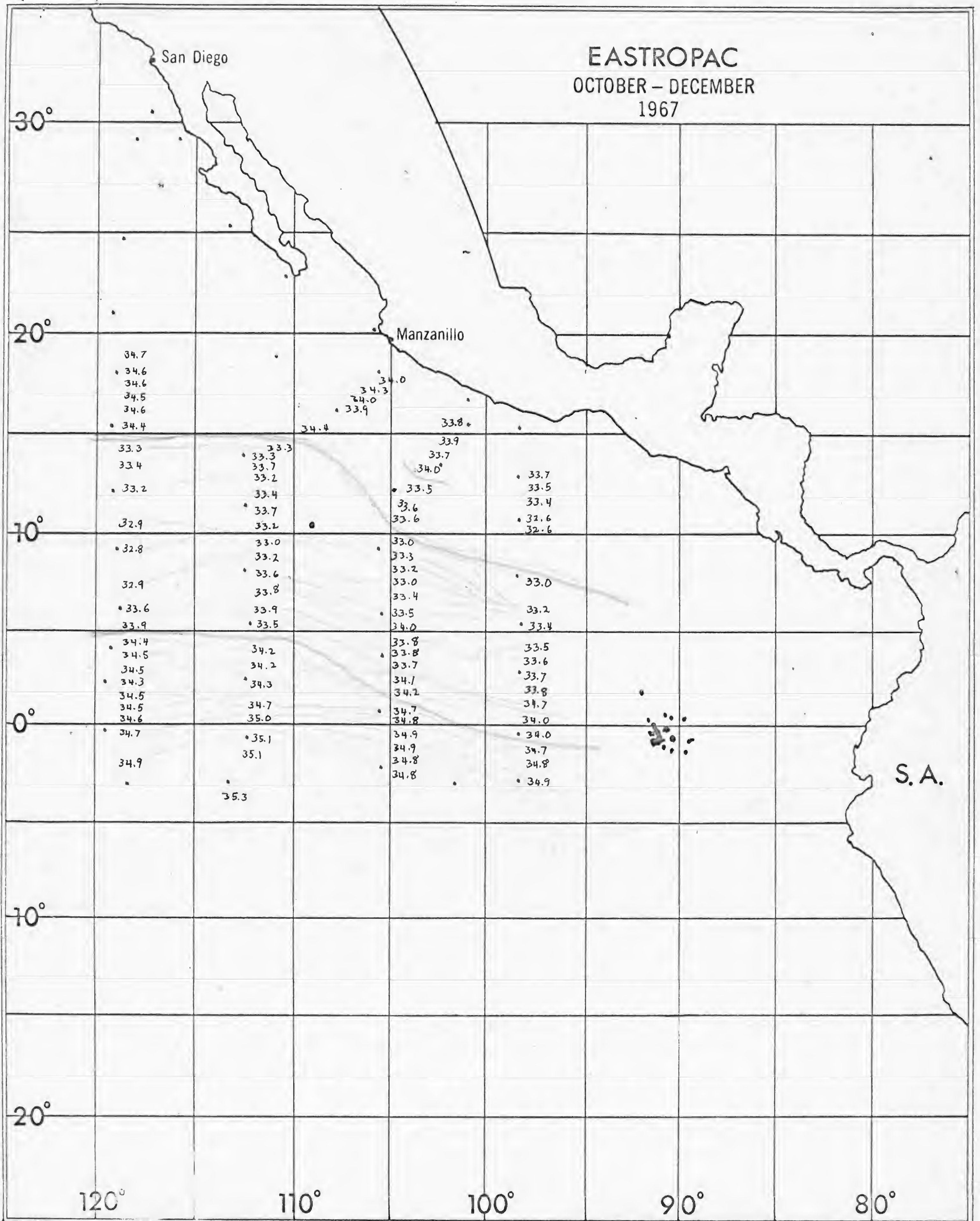
EASTROPAC OCTOBER - DECEMBER 1967



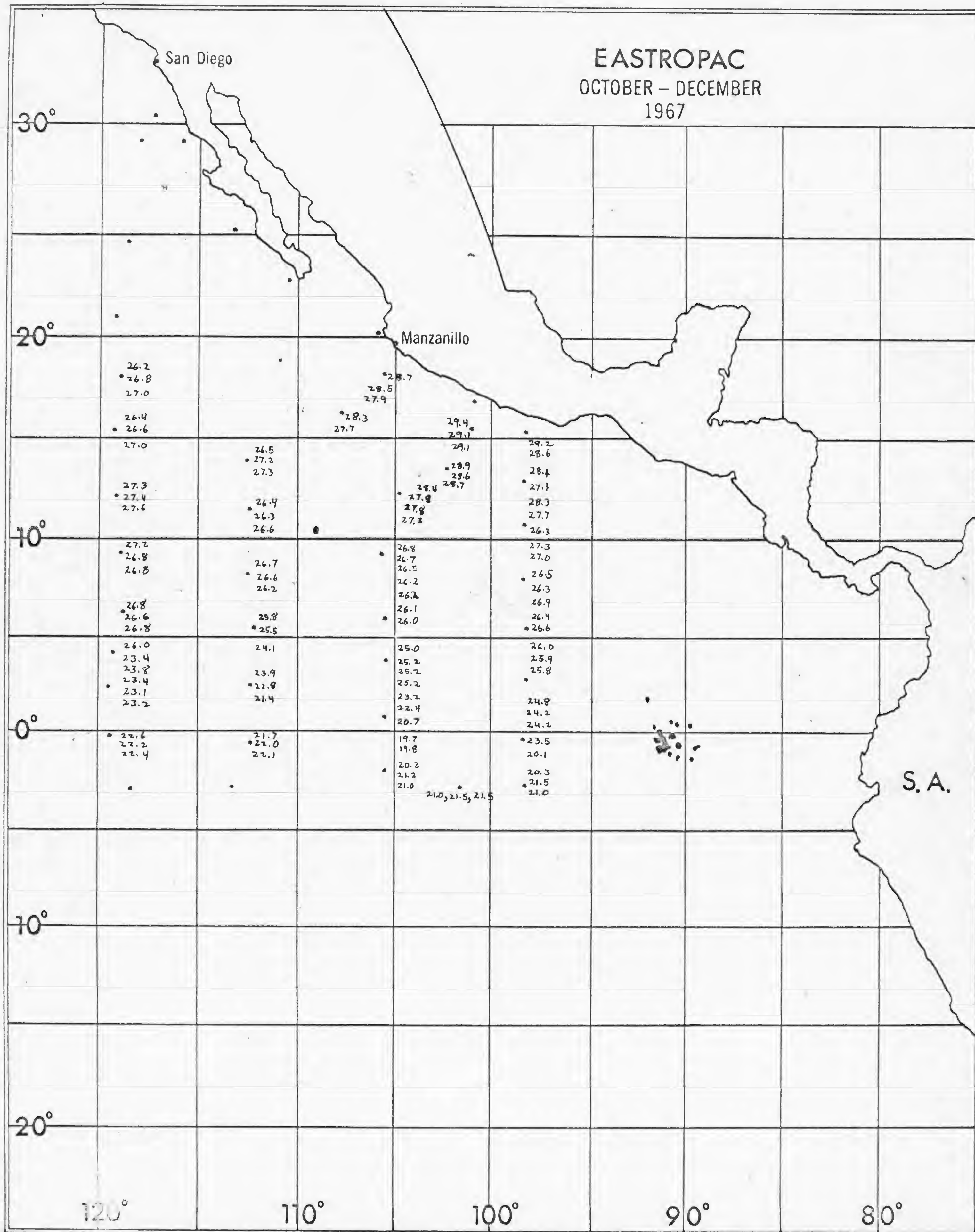
Map 2: Water-type Divisions Used in this Report

EASTROPAC

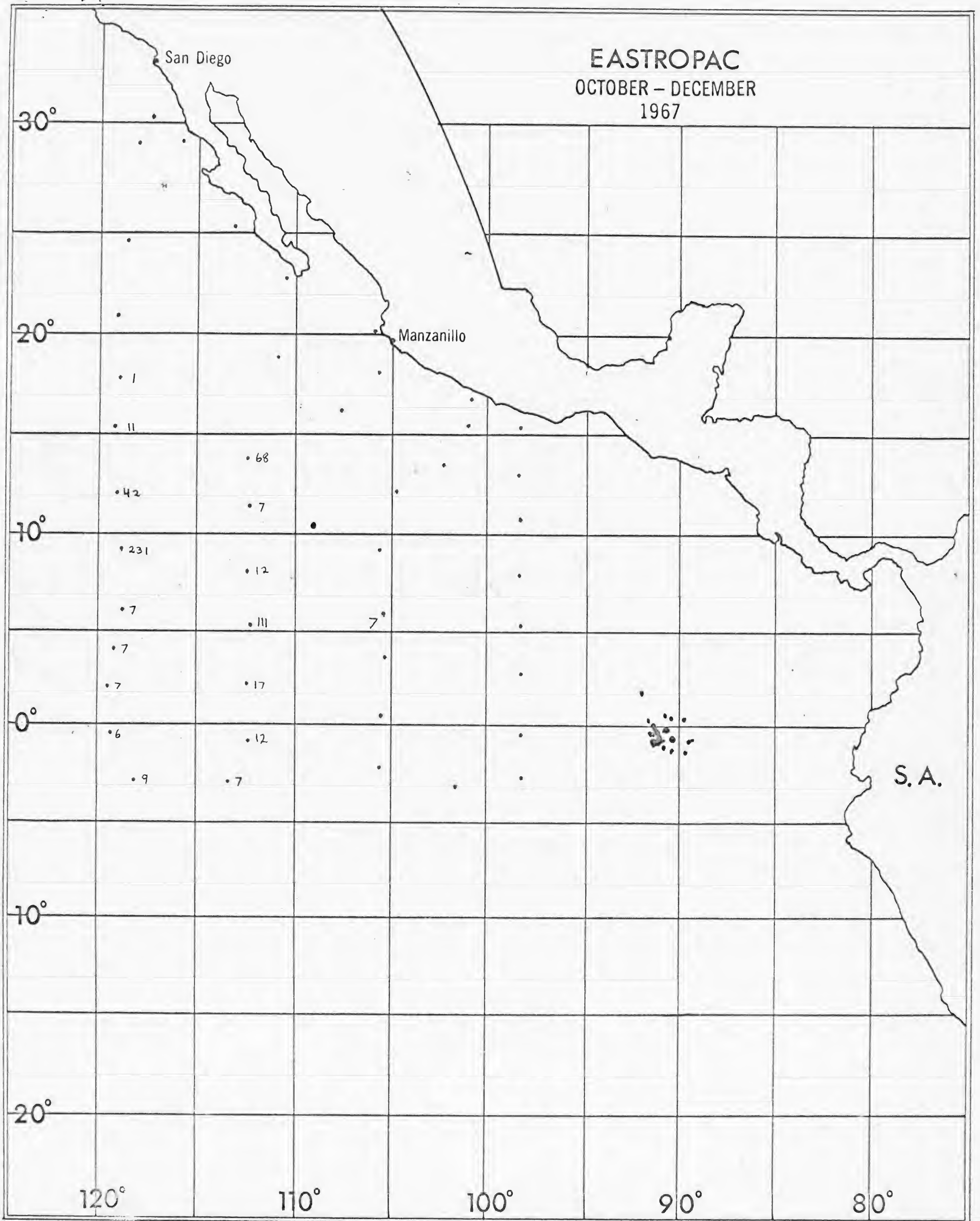
OCTOBER - DECEMBER
1967



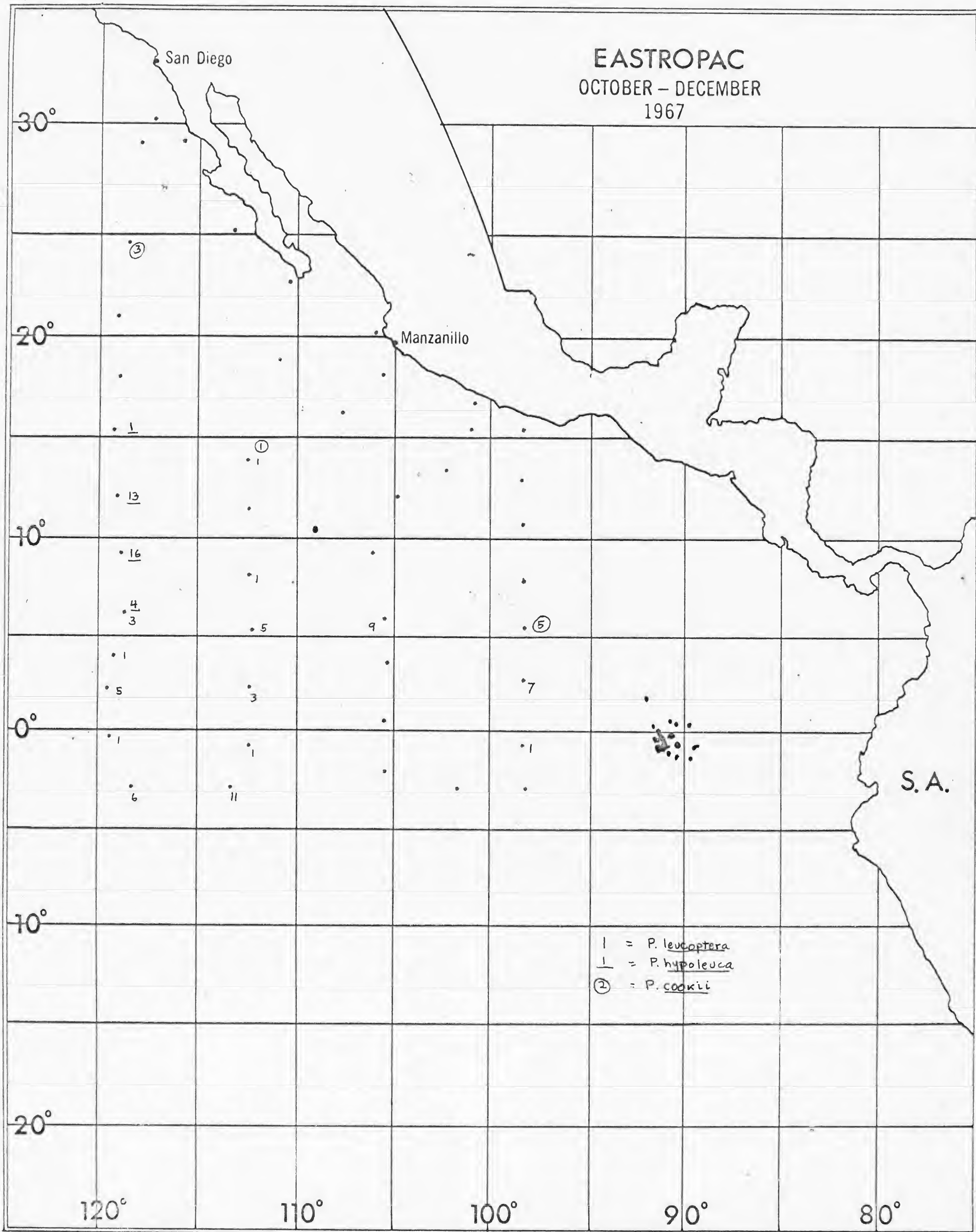
Map 3: Selected Surface Salinities on EAC 26



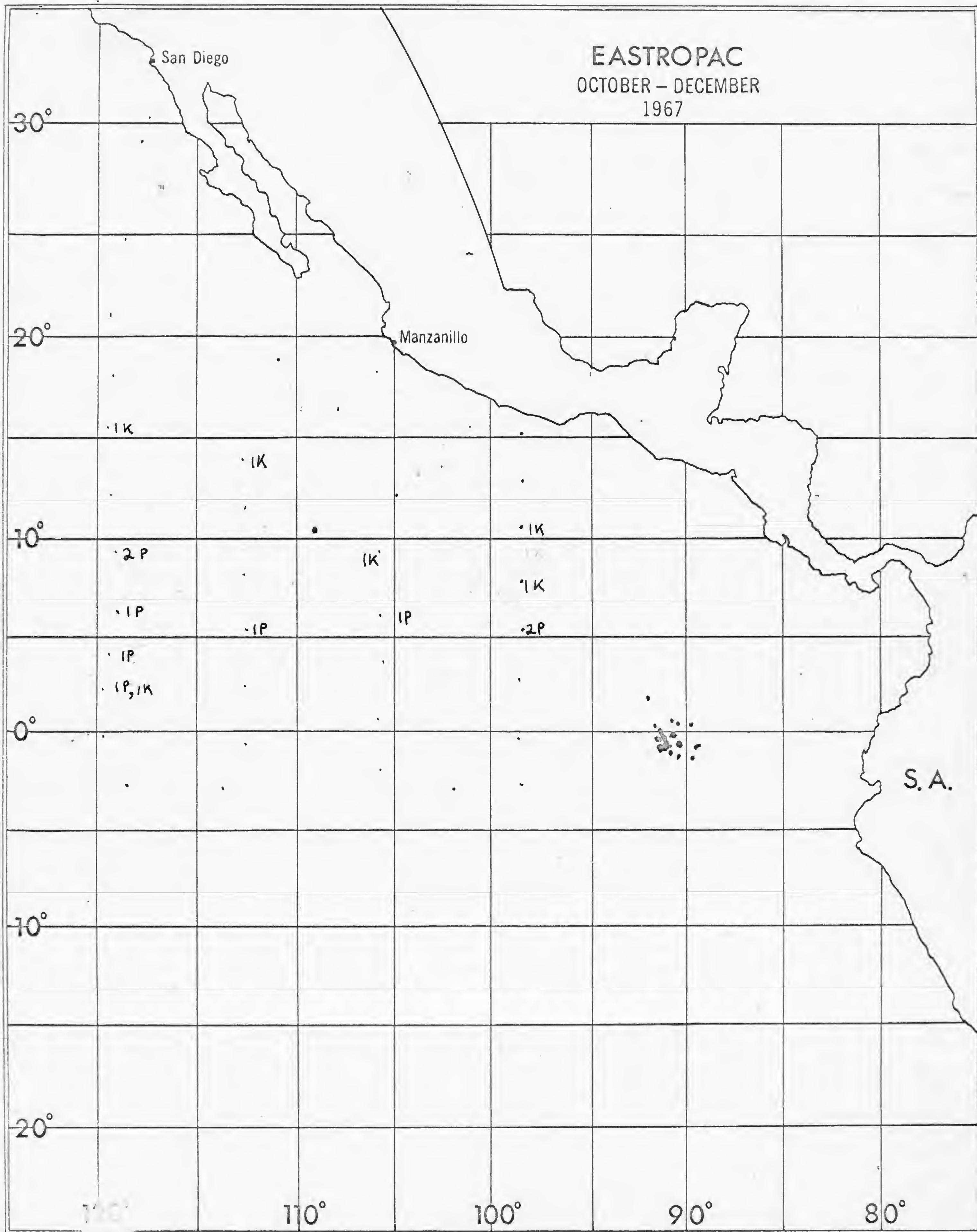
Map 4: Selected Surface Temperatures in Centigrade on EAC 26



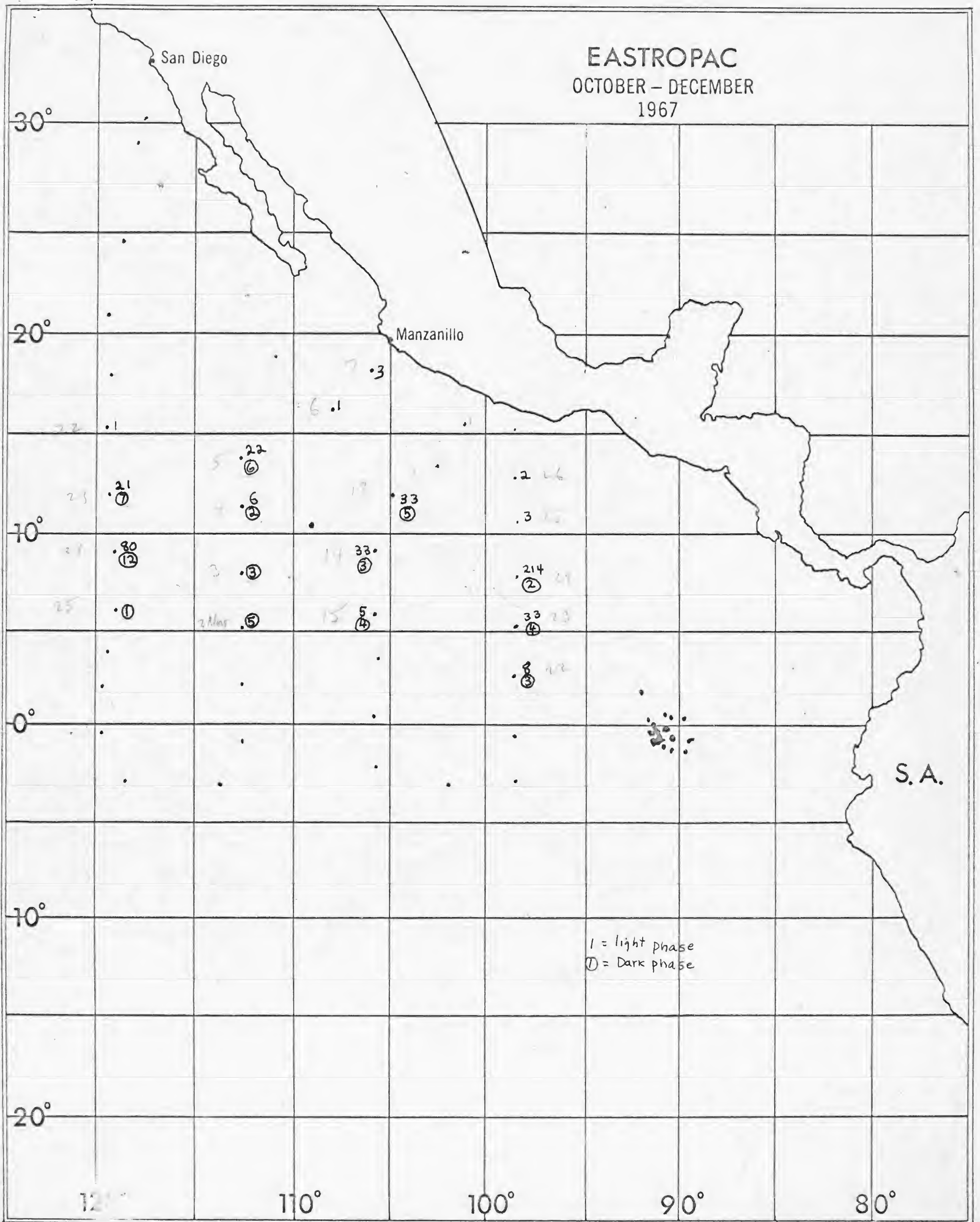
Map 5: The Distribution of *Pterodroma externa* on EAC 26



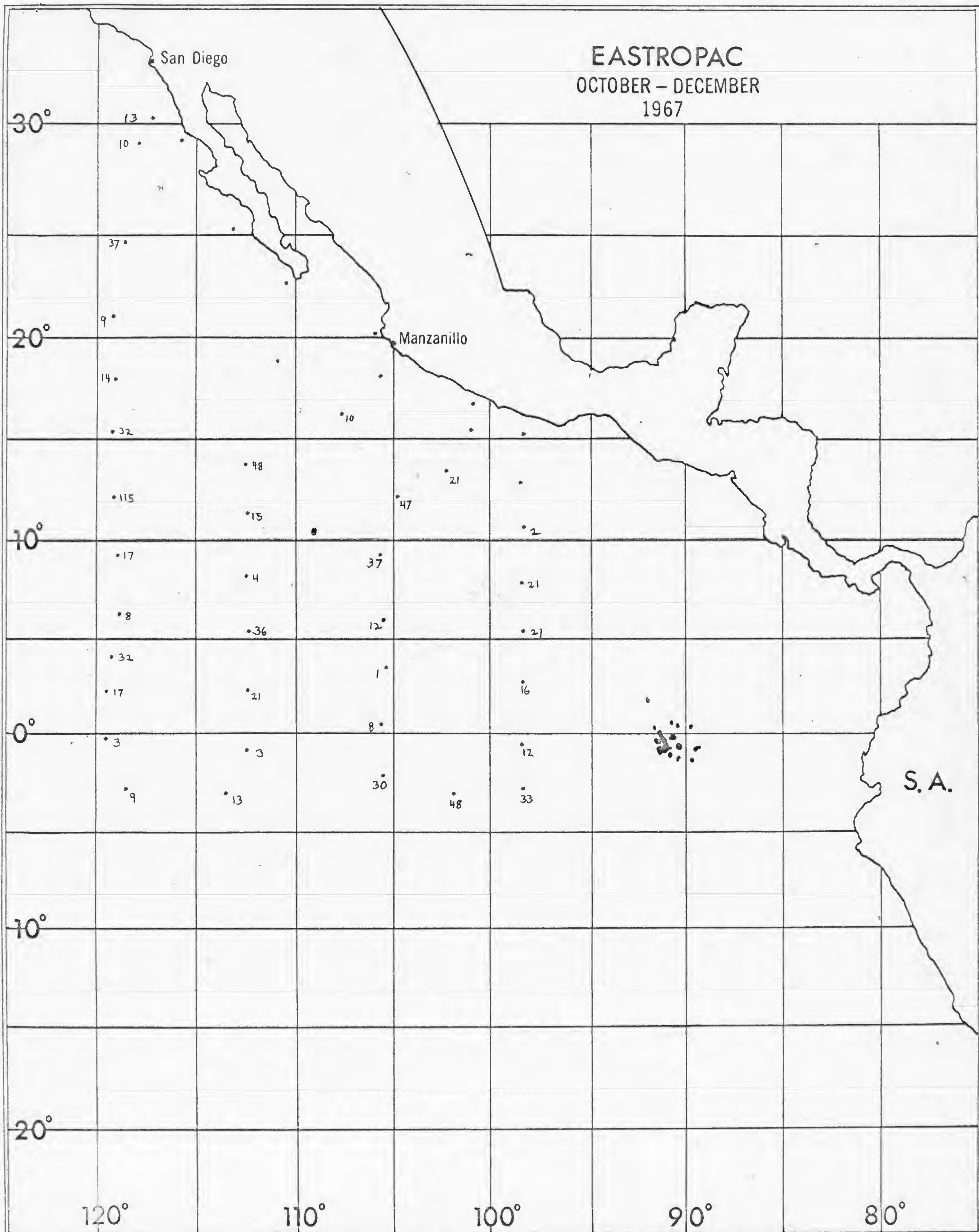
Map 6: The Distribution of *Pterodroma hypoleuca*, *leucoptera*, and *cookii*
on EAC 26



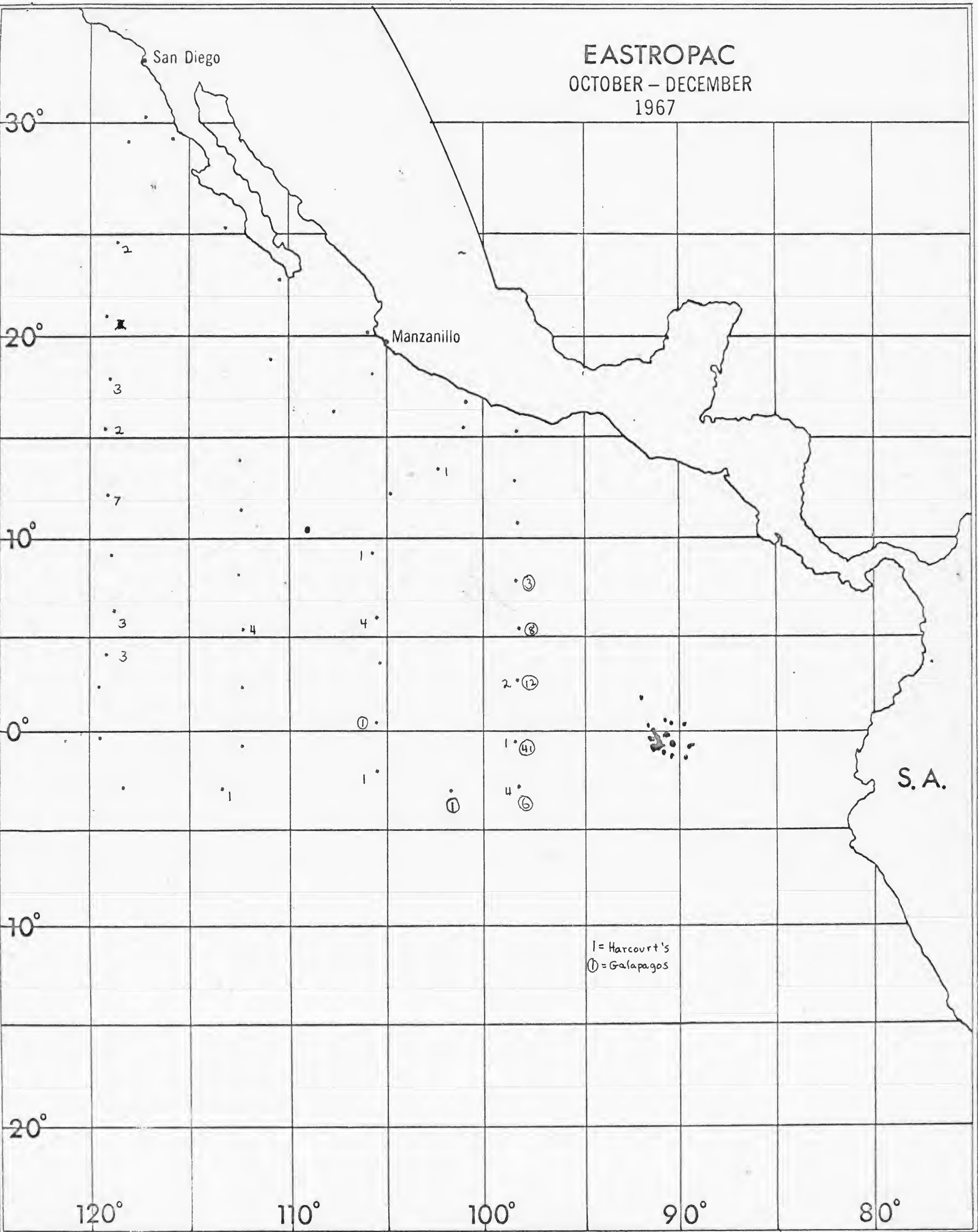
Map 7: Kermadec and Phoenix/Tahitian Distribution



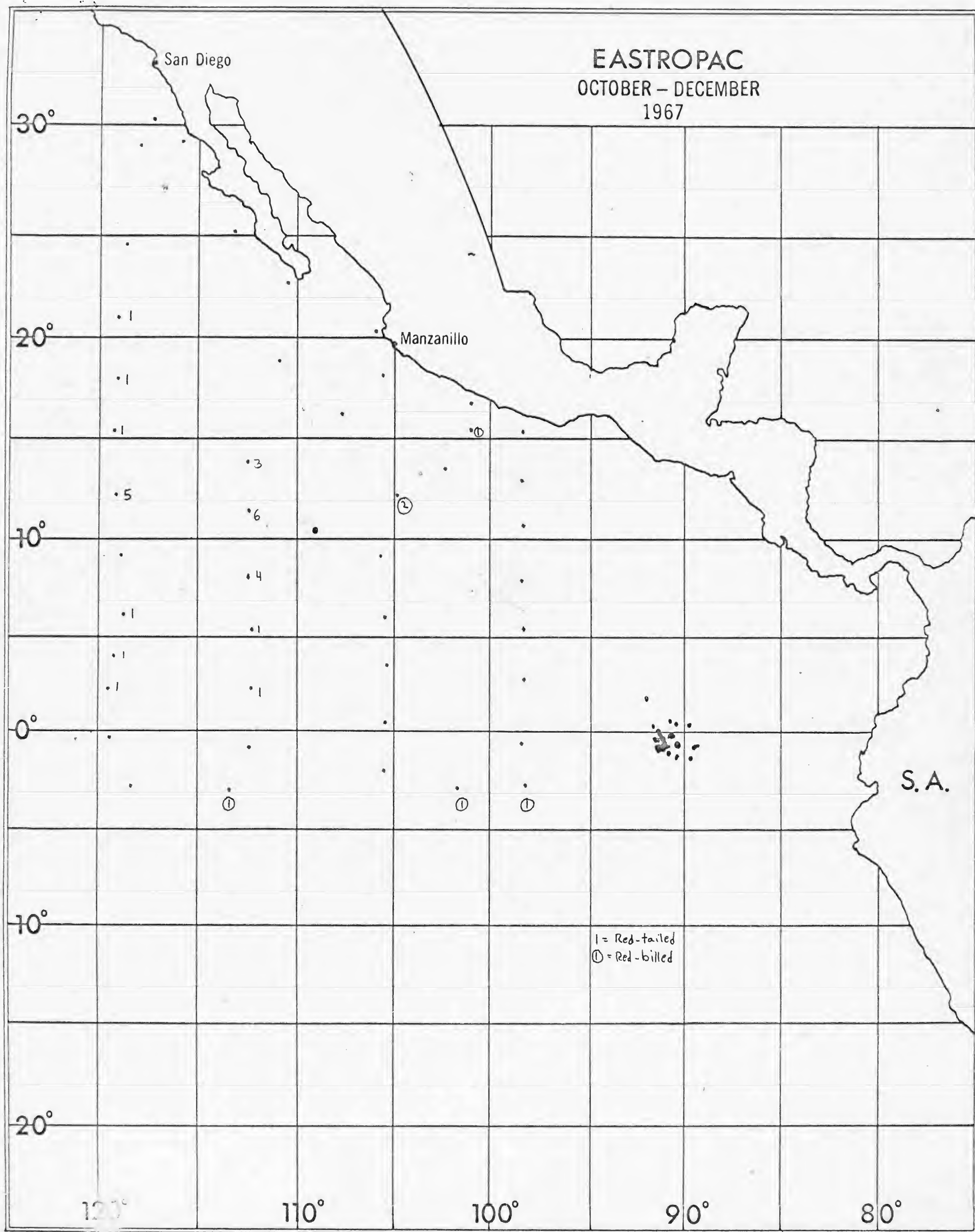
Map 8: Distribution of light and dark-phase Wedge-tailed Shearwaters



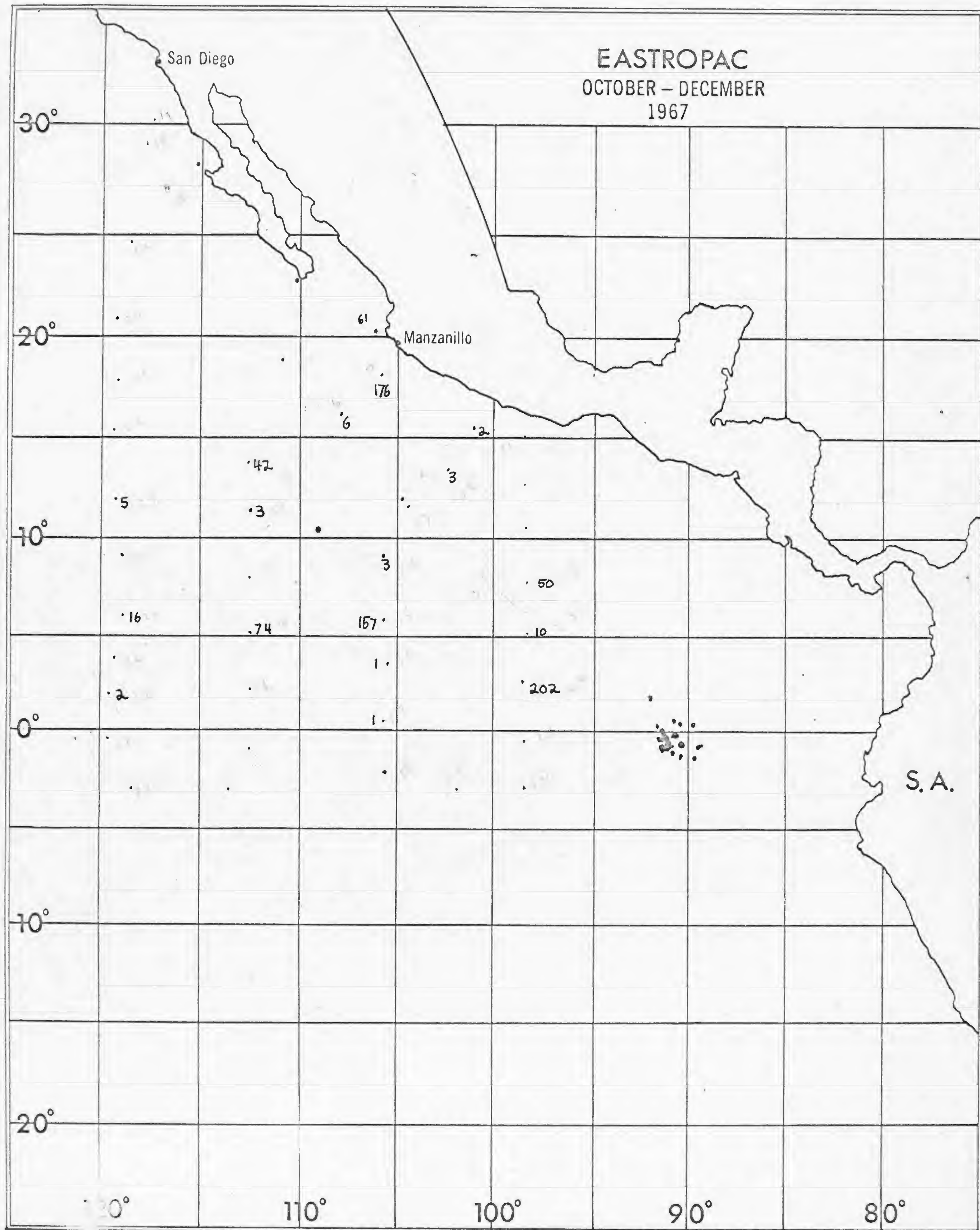
Map 9: Distribution of Leach's Storm Petrels



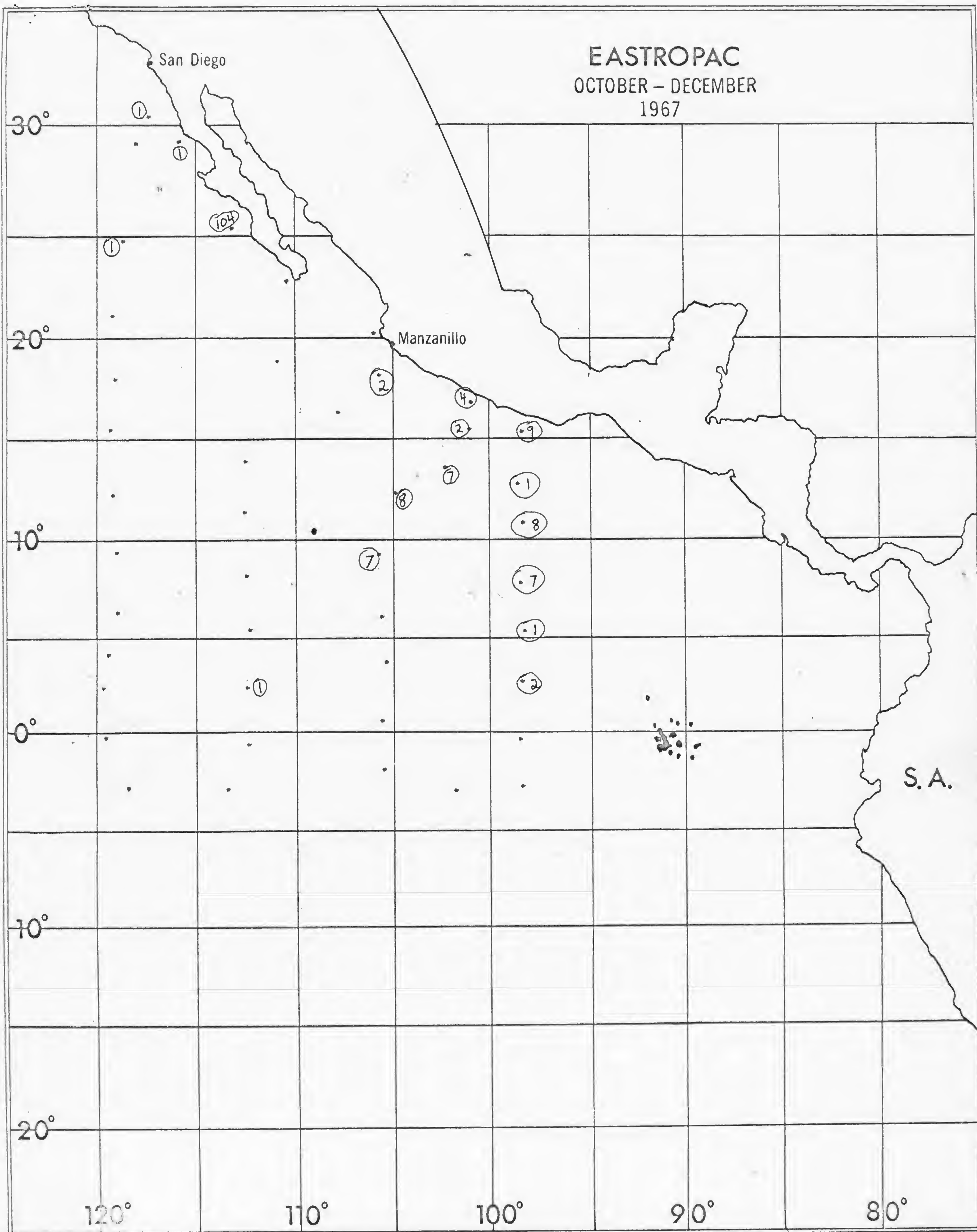
Map10: Distribution Of Harcourt's and Galapagos Storm Petrels



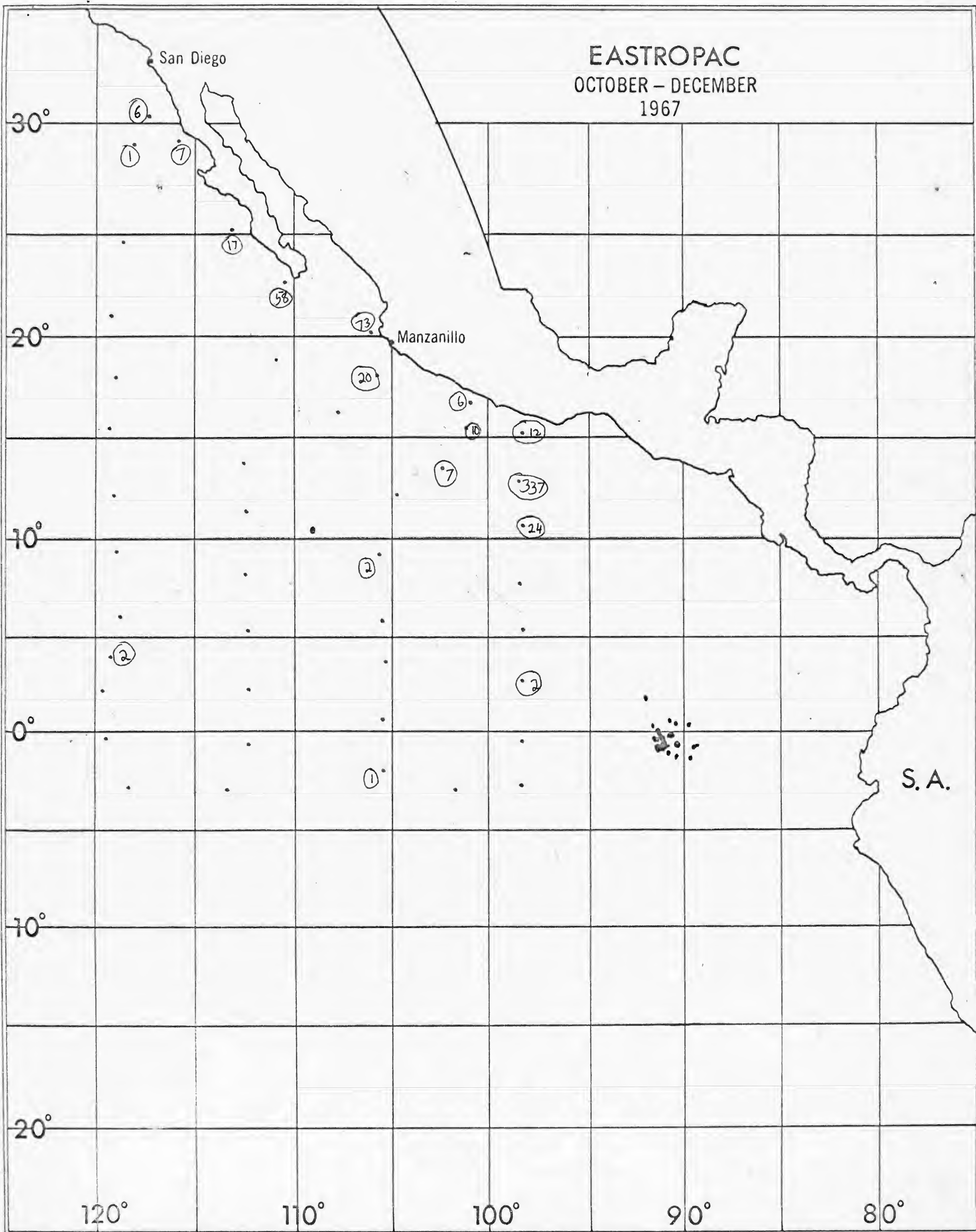
Map 11: Distribution of Red-billed and Red-tailed Tropicbirds



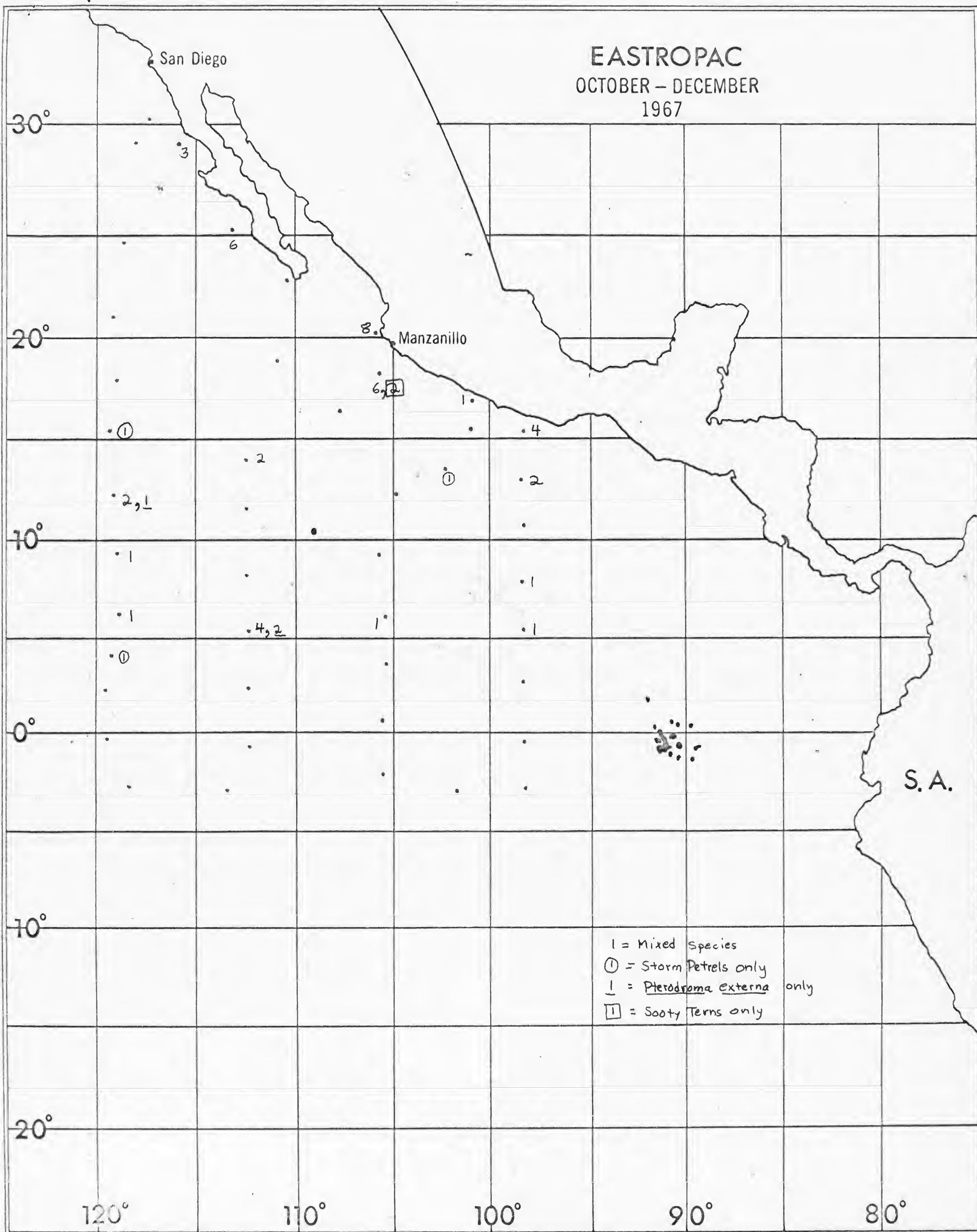
Map 12: Sooty Tern Distribution



Map 13: Distribution of Pomarine Jaegers



Map 14: Distribution of Northern and Red Phalaropes



Map 15: Distribution of Feeding Flocks of Birds

Appendix A. Scientific Personnel Aboard the R/V DAVID
STARR JORDAN on EAC 26

Robert W. Owen (Scientist-in-Charge)	BCF
Michael Kruse	BCF
Raymond Shuey	BCF
Kenneth Bliss	BCF
Robert McClendon	BCF
Robert Counts	BCF
Tapuni Mulitauopele	BCF
Arthur Hester	SIO
Rustam Irani	SIO
Robert Brennen	SIO
Donald Seibert	SIO
Edward Renger	SIO
Joseph Guilemette	BPBM
Brian Harrington	SI

BCFBureau of Commercial Fisheries
SIOScripps's Institution of Oceanography
BPBMBernice P. Bishop Museum (Hawaii)
SISmithsonian Institution

Appendix B:

Data Collecting Activities

Weather * Information collected at every ocean station by scientific personnel. Picture of the sky taken every two minutes during the day, continuous recording of sea surface temperature, solar radiation, difference between wet and dry tempearture, and continuous recording of sea water chlorophyll content.

Plankton Tows: Surface and oblique tows 4 times daily.

Micronekton Tows: Twice daily.

Temperature and Salinity with Depth: Taken on the average of every twenty miles. Some stations had only temperature with depth. Also continuous surface readings for first two thirds of the cruise.

Chemical Nutrients; readings an average of four times daily from various depths.

Insect Sampling: Continuous survey using eight nets above the superstructure of the ship.

APPENDIX C. Daily Abundance of Flocks (excludes phalaropes)

18 October		"Puddle Ducks"	17	Travelling
19 October	0920	Leach's Storm Petrel	5	Sitting on water
	1045	Leach's Storm Petrel	5	Sitting on water
22 October	1735	White-rumped Storm Petrel	13	Feeding on line of currents
23 October	0950	Leach's Storm Petrel	5	On water, flushed to southeast
	1010	Mixed feeding flock (6 species, 12 stenella)	28	
	1120	Pintail	25	South
	1231	<u>Pterodroma externa</u>	6	Feeding
	1235	Shearwater/Petrel	8	At edge of rain squall
	1346	Mixed (4 species)	16	Feeding
	1350	Storm petrels	6	Feeding ?
	1459	Storm petrels	8	On water
	1515	Storm petrels and 1 Murphy's Petrel(?)	56	On water with "small" slick
24 October	sunrise	Mixed (1)	285	Feeding near buoy
25 October	1526	Mixed	28	Feeding
26 October	0952	White-rumped Storm Petrel	10	Feeding along current line
	1505	White-rumped Storm Petrel	6	No description
02 November	0817	Mixed	87	Feeding
	0830	Mixed	152	Feeding
	0835	Juan Fernandez Petrel	6	Feeding
	0837	Juan Fernandez Petrel	10	Feeding
	0845	Juan Fernandez Petrel	5	On water
	0850	Juan Fernandez Petrel	17	On water
	0917	Mixed	11	Feeding
	1025	Mixed	72	Feeding
03 November	1350	Mixed	9	Sitting on water
05 November	0730	Mixed	102	Feeding
	0746	White-rumped Storm Petrel	8	On water
	0933	Mixed	7	Feeding
	1013	White-rumped Storm Petrel	19	Sitting on water
	1015	Sooty Tern (adult)	13	Travelling
	1358	White-rumped Storm Petrel	10	Travelling with ship
07 November	1330	Mixed	22	Feeding
	1411	Mixed	21	Feeding
	1419	Mixed	23	Feeding
	1422	Mixed	30	Feeding
	1510	Sooty Terns	8	Feeding
	1528	Sooty Terns	28	Feeding
	1547	Mixed	80	Feeding
	1550	Sooty Tern & Jaeger	10	Feeding
12 November	1000	White-rumped Storm Petrel	5	Feeding

APPENDIX C (cont'd)

13 November	0930	Red-footed Booby	11	Following ship
	1447	Wedge-tailed Shearwater	12	Searching
14 November	1530	Wedge-tailed Shearwater	18	Searching
15 November	0925	Mixed	112	Searching
	0947	Mixed	45	Searching
	1423	Mixed	15	Feeding
17 November	0824	Storm petrel	6	On water
19 November	0635	White-rumped Storm Petrel	6	Travelling
21 November	1535	Galapagos Petrel	16	Following ship
22 November	1545	Mixed	264	Feeding over Skipjack
23 November	0700	Mixed	10	Feeding
	0952	White-rumped Storm Petrel	6	On water
	0954	Wedge-tailed Shearwater	7	On water
	1350	Shearwater/Petrel	8	On water
24 November	0735	Mixed	254	Searching, distinct targets showing on ship's sonar
	1505	Storm petrel	6	On water
26 November	1315	Mixed	231	On water
	1520	Blue-faced Booby	13	Feeding
27 November	0906	Mixed	16	Feeding
	1220	Mixed terns	12	Feeding
	1231	Mixed terns	9	Feeding
	1326	Mixed terns	10	Feeding
28 November	0740-0815	Brown Booby (6 flocks)	48	Travelling
	1317	Boobies and terns	109	Feeding
29 November	0722	Brown Booby	8	Travelling
	0722	Least Tern(?)	11	Feeding
	0812	Terns and boobies	77	Feeding
	0820	Terns and boobies	86	Feeding
	0830	Black Storm Petrel	5	Travelling
	0834	Mixed Terns	157	Feeding
	0851	Black Terns	50	Feeding
	1011	Mixed flock	6	Feeding
	1233	Boobies and terns	21	Feeding
	1526-32	Common Shearwater (2 flocks)	(total) 15	Travelling
	1545	Common Shearwater and Sooty Terns	125	Feeding
	1555	Common Shearwater	9	Travelling

APPENDIX C Daily Abundance of Flocks (cont'd)

01 December	0845	Mixed	8	Feeding
	0856	Bonaparte's Gull	8	Milling
	0927-0934	Bonaparte's Gull (2 flocks) (total)	14	Travelling
	1035	Western and Herring-type Gull	15	Following
	1052	Mixed	16	Feeding
	1100	Bonaparte's Gull	7	Travelling
	1110	Mixed	33	Feeding
	1115	Mixed 2160 birds, 500 Delphinus		Feeding
	1207	Bonaparte's Gull	7	On water
	1240	Common Shearwater, Shearwater/Petrel, Jaeger, Pelican	1525	Feeding
	1300	Storm Petrel (?)	5000	On water
	1310	Bonaparte's Gull	5	On water
	1319	Common Shearwater	8	Travelling
	1333	Bonaparte's Gull	18	On water
	1338	Mixed	18	Feeding
	1440-1525	Common Shearwater (5 flocks) (total)	34	Feeding
	1450	Bonaparte's Gull	13	Travelling
02 December	1342	Mixed	85+7sea lion	Feeding
	1352	Mixed	18	Feeding
	1355	Mixed	13	Feeding

Appendix D: Periods of Time spent in Water-type Sections as defined in
This Report *

Section A: 19-21 Oct. and 22 Oct. until 1630 hours

B1: 1631 hours 22 October until 1300 hours 26 Oct.

B2: 0800 hours 02 November until sunset 05 November

B3: 14-16 November

B4: 22-24 November

C1-C3: 1300 Hours 26 October until 0800 hours 02 November

C4-C6: 17-21 November

D1-D4: 6-7Nov., 11-13 Nov., 25 Nov-1200 hours 29 November.

E: 1200 hours 29 Nov.- 1200 hours 30 Nov.

F: 1200 hours 30 Nov- sunset 30 November

G1-G2: 17-18 October, 1-2 December

* See map 2

EASTROPAC

Date 17 Oct 1967 Ship R.V. JORDAN () Cruise No.

Organization P.O.B.S.P. Recorder

Sunrise: Time 0658 Position: Lat. , Long.

Sunset: Time 1816 Position: Lat. , Long.

Miles travelled from 0000 hours to sunrise = 51

Miles travelled from sunrise to sunset =

Miles travelled from sunset to 2400 hours =

	TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
1.	<u>1200</u>	<u>LAY</u>	<u>30-19</u>	<u>117-38W</u>
2.	<u>1845</u>	<u>Celestial</u>	<u>28-57</u>	<u>117-49</u>
3.				
4.				
5.				

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
0000	<u>31-43</u>	<u>117-11</u>				
0100	<u>31-36</u>	<u>117-13</u>				
0200	<u>31-29</u>	<u>15</u>				
0300	<u>31-22</u>	<u>17</u>				
0400	<u>31-15</u>	<u>20</u>				
0500	<u>31-08</u>	<u>22</u>				
0600	<u>31-01</u>	<u>25</u>				
0700	<u>30-54</u>	<u>27</u>				
0800	<u>30-47N</u>	<u>117-29 W</u>				
0900	<u>30-40</u>	<u>31</u>				
1000	<u>30-33</u>	<u>34</u>				
1100	<u>30-26</u>	<u>36</u>				
1200	<u>30-19</u>	<u>117-38</u>				
1300	<u>30-12</u>	<u>40</u>				
1400	<u>29-56</u>	<u>42</u>				
1500	<u>29-49</u>	<u>44</u>				
1600	<u>29-32</u>	<u>45</u>				
1700	<u>29-20</u>	<u>47</u>				
1800	<u>29-08</u>	<u>49</u>				
1900	<u>28-54</u>	<u>51</u>				
2000	<u>28-32</u>	<u>53</u>				
2100	<u>28 20</u>	<u>55</u>				
2200	<u>28 06</u>	<u>57</u>				
2300	<u>28 02</u>	<u>117-58</u>				
2400	<u>28 02</u>	<u>117-58</u>				

EASTROPAC

Date 18 OCT 1967 Ship R.V. JORDAN () Cruise No. Organization P.O.B.S.P. Recorder Sunrise: Time 0655 Position: Lat. , Long. Sunset: Time 1821 Position: Lat. , Long. Miles travelled from 0000 hours to sunrise = Miles travelled from sunrise to sunset = 70Miles travelled from sunset to 2400 hours = 71

	TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
1.	0223		28-27	117-50
2.	0447		28-54	117-47
3.	0740		29-26	117-23
4.	0915 (C4, W)		29-43	117-40
5.	1315		29-17	118-04
			29-04	118-08
			28-36	118-14

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
------	----------	-----------	-----------	----------	-----------	-----------

0100	28-10	55				
0200	28-22	52				
0300	34	50				
0400	46	48				
0500	58	46				
0600	29-10	44				
0700	32	43				
0800	34	42				
0900	46	40				
1000	29-36	48				
1100	26	56				
1200	29-17	118-04				
1300	29-07	118-08				
1400	29-04	09				
1500	29-00	11				
1600	28-58	12				
1700	28-47	13				
1800	28-36	118-14				
1900						
2000						
2100						
2200						
2300						
2400	27-25	118-22				

EASTROPAC

Date 19 October 1967 Ship R.U. Jordan () Cruise No. _____Organization P.O.B.S.P. Recorder _____Sunrise: Time 0654 Position: Lat. 25 56, Long. 118-27Sunset: Time 1825 Position: Lat. 23-38, Long. 118-46Miles travelled from 0000 hours to sunrise = 89Miles travelled from sunrise to sunset = 139

Miles travelled from sunset to 2400 hours = _____

	TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
1.	0635	Star	26-00	11827
2.	1240	LAN	24-49	118-42
3.	1850	Star	23-35	118-47
4.				
5.				

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
0000	27-25	118-22				
0100	27-12	23				
0200	26-59	24				
0300	26-46	25				
0400	26-33	25				
0500	26-20	26				
0600	26-07	27				
0700	25-54	28				
0800	25-42	118-29				
0900	25-31	31				
1000	25-20	32				
1100	25-09	118-33				
1200	24-58	118-36				
1300	45	38				
1400	32	39				
1500	17	41				
1600	06	43				
1700	23-53	45				
1800	23-41	118-47				
1900						
2000						
2100						
2200						
2300						
2400						

EASTROPAC 50

Date 20 Oct 1967 Ship R.V. JORDAN () Cruise No. _____Organization P.O.B.S.P. Recorder _____Sunrise: Time 0656 Position: Lat. 21-20, Long. 119-05Sunset: Time 1831 Position: Lat. 19-56, Long. 119-10Miles travelled from 0000 hours to sunrise = 73Miles travelled from sunrise to sunset = 86Miles travelled from sunset to 2400 hours = 44

	TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
1.	0630	Stars	21-28	119-04
2.	1241	LAM	20-41	119-06
3.	1855	Star	19-56	119-11
4.				
5.				

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
0001	22-35	118-55				
0100	22-24	118-57				
0200	22-13	118-58				
0300	22-03	118-57				
0400	21-52	119-00				
0500	21-41	119-02				
0600	21-31	119-04				
0700	21-20	119-05				
0800	21-09	119-06				
0900	20-56	119-06				
1000	20-46	119-06				
1100	20-41	119-06				
1200	20-41	119-06				
1300	20-41	119-06				
1400	20-31	119-07				
1500	20-21	119-07				
1600	20-11	119-08				
1700	20-00	119-09				
1800	20-00	119-09				
1900						
2000						
2100						
2200						
2300						
2400	19-14	119-10				

10130 20-41, 119-06

1630 20-20
119-09

- START 1715

EASTROPAC

Date 21 Oct. 1967 Ship R.V. Jordan () Cruise No. Organization P.O.B.S.P. Recorder Sunrise: Time 0656 Position: Lat. 18-38 N, Long. 119-08Sunset: Time 1835 Position: Lat. 17-14, Long. 119-07Miles travelled from 0000 hours to sunrise = 36Miles travelled from sunrise to sunset = 85Miles travelled from sunset to 2400 hours =

	TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
1.	<u>0630</u>	<u>Stars</u>	<u>18-41 N</u>	<u>119-08 W</u>
2.	<u>1200</u>	<u>LAN</u>	<u>17-56</u>	<u>119-07</u>
3.				
4.				
5.				

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
0001	<u>19-14</u>	<u>119-10</u>				
0100	<u>19-07</u>	<u>119-10</u>				
0200	<u>19-05</u>	<u>119-09</u>				
0300						
0400						
0500	<u>18-41</u>	<u>119-08</u>				
0600	<u>18-41</u>	<u>119-08</u>				
0700	<u>18-31</u>	<u>119-08</u>				
0800	<u>18-24</u>	<u>119-08</u>				
0900	<u>18-15</u>	<u>119-07</u>				
1000	<u>18-02</u>	<u>119-07</u>				
1100	<u>17-56</u>	<u>119-07</u>				
1200	<u>17-56</u>	<u>119-07</u>				
1300	<u>17-56</u>	<u>119-07</u>				
1400	<u>17-50</u>	<u>119-07</u>				
1500	<u>17-40</u>	<u>119-07</u>				
1600	<u>17-26</u>	<u>119-07</u>				
1700	<u>17-20</u>	<u>119-08</u>				
1800	<u>17-20</u>	<u>119-08</u>				
1900						
2000						
2100						
2200						
2300						
2400	<u>16-32</u>	<u>119-10</u>				

0430 18-41; 119-080645 18-411030 17-56; 119-07

EASTROPAC

Date 22 OCT 1967 Ship R.V. Jordan () Cruise No. _____

Organization P.O.B.S.P. Recorder _____

Sunrise: Time 0640 Position: Lat. _____, Long. _____

Sunset: Time 1840 Position: Lat. _____, Long. _____

Miles travelled from 0000 hours to sunrise = 44

Miles travelled from sunrise to sunset = 78.00

Miles travelled from sunset to 2400 hours = 46-00

TIME OF FIX TYPE OF FIX LATITUDE LONGITUDE

1.

2.

3.

4.

5.

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
0000	1632	119-10				
0100	1632	119-10				
0200	1632	119-10				
0300						
0400						
0500						
0600	15-47	119-12				
0700	15-47	119-12				
0800	15-47	119-12				
0900	15-38	119-11				
1000	15-25	119-11				
1100	15-15	119-11				
1200	15-13	119-11				
1300	15-12	119-11				
1400	15-11	119-11				
1500	14-56					
1600	14-43	119-10				
1700	14-43	119-10				
1800	39					
1900	27					
2000	14-15	119-10				
2100						
2200						
2300	13-45	119-09				
2400	13-45	119-09				

EASTROPAC

Date 23 Oct 1967 Ship R.U. Jordan () Cruise No.

Organization P.O.B.S.P. Recorder

Sunrise: Time 0540 Position: Lat. 12-54, Long. 119-07

Sunset: Time 1838 Position: Lat. 11-19, Long. 119-09

Miles travelled from 0000 hours to sunrise = 51

Miles travelled from sunrise to sunset = 94

Miles travelled from sunset to 2400 hours = 47

	TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
--	-------------	-------------	----------	-----------

1.

2.

3.

4.

5.

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
------	----------	-----------	-----------	----------	-----------	-----------

0001	13-45	119-09				
0100	13-39	119-09				
0200						
0300						
0400	13-04	119-07				
0500	13-04	119-07				
0600						
0700	12-50	119-07				
0800	12-38	119-07				
0900	12-26	119-07				
1000	12-14	119-07				
1100	12-08	119-07				
1200	12-08	119-07				
1300	12-02	119-08				
1400	11-51	119-08				
1500	11-40	119-08				
1600	11-30	119-09				
1700	11-30	119-09				
1800	11-26	119-09				
1900	11-14	119-09				
2000	11-02	119-09				
2100						
2200						
2300						
2400	10-32	119-10				

EASTROPAC

Date 24 OCT 1967 Ship R.V. Jordan () Cruise No. _____

Organization P.O.B.S.P. Recorder _____

Sunrise: Time 0640 Position: Lat. 09-37N, Long. 119-03

Sunset: Time 1840 Position: Lat. 08-45, Long. 119-03

Miles travelled from 0000 hours to sunrise = 55

Miles travelled from sunrise to sunset = 51

Miles travelled from sunset to 2400 hours = 45

TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
-------------	-------------	----------	-----------

1.

2.

3.

4.

5.

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
------	----------	-----------	-----------	----------	-----------	-----------

0001	10-31	119 10				
0100						
0200	10-04	119-09				
0300						
0400	09-50	119-04				
0500	09-50	119-04				
0600	09-37	119-03				
0700	09-37	119-03				
0800	09-37	119-03				
0900	09-37	119-03				
1000	09-34	119-04				
1100	09-23	119-04				
1200	09-23	119-06				
1300	09-23	119-06				
1400	09-16	119-04				
1500	09-05	119-04				
1600	08-54	119-02				
1700	08-54	119-03				
1800	08-52	119-03				
1900	08-42					
2000	08-29	119-03				
2100						
2200						
2300						
2400	08-00	119-02				

0945 Base
Bury

Stop 1600
Start 1745

EASTROPAC

Date 25 Oct 1967 Ship R.V. JORDAN () Cruise No. _____Organization P.O.B.S.P. Recorder _____Sunrise: Time 0640 Position: Lat. 07-16, Long. 11851Sunset: Time 1838 Position: Lat. 06-02, Long. 119-01Miles travelled from 0000 hours to sunrise = 45Miles travelled from sunrise to sunset = 93

Miles travelled from sunset to 2400 hours = _____

	TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
1.				
2.				
3.				
4.				
5.				

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
0001	09-00	119-02				
0100						
0200						
0300						
0400	07-25	118-51				
0500	07-25	118-51				
0600	07-25	118-51				
0700	07-12	118-52				
0800	06-59	118-52				
0900	06-47	118-52				
1000	06-37	118-53				
1100	06-28	118-53				
1200	06-25	118-55				
1300	06-21	118-55				
1400	06-08	118-58				
1500	06-07	118-56				
1600	06-05	118-56				
1700	06-02	119-00				
1800	06-02	119-00				
1900	05-58	119-02				
2000	05-45	119-04				
2100						
2200						
2300						
2400						

0100						
0200						
0300						
0400	07-25	118-51				
0500	07-25	118-51				
0600	07-25	118-51				
0700	07-12	118-52				
0800	06-59	118-52				
0900	06-47	118-52				
1000	06-37	118-53				
1100	06-28	118-53				
1200	06-25	118-55				
1300	06-21	118-55				
1400	06-08	118-58				
1500	06-07	118-56				
1600	06-05	118-56				
1700	06-02	119-00				
1800	06-02	119-00				
1900	05-58	119-02				
2000	05-45	119-04				
2100						
2200						
2300						
2400						

= top 1030

maneuvering

EASTROPAC

Date 26 Oct 1967 Ship RV JORDAN () Cruise No. _____Organization P.O.B.S.P. Recorder _____Sunrise: Time 0645 Position: Lat. 04-29, Long. 119-11Sunset: Time 1840 Position: Lat. 03-33, Long. 119-17

Miles travelled from 0000 hours to sunrise = _____

Miles travelled from sunrise to sunset = _____

Miles travelled from sunset to 2400 hours = _____

	TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
1.				
2.				
3.				
4.				
5.				

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
0001	05-12	119-07				
0100						
0200						
0300	04-49	119-07				
0400	04-39	119-08				
0500	04-39	119-09				
0600	04-39	119-10				
0700	04-25	119-11				
0800	04-11	119-12				
0900	04-00	119-12				
1000	03-57	119-12				
1100	"	"				
1200	"	"				
1300	03-57	119-12				
1400	03-53	119-14				
1500	03-45	119-15				
1600	03-37	119-16				
1700	"	"				
1800	"	"				
1900	03-30	119-17				
2000	03-27	119-17				
2100						
2200						
2300						
2400	03-11	119-21				

EASTROPAC 50

Date 27 Oct 1967 Ship R.V. JORDAN () Cruise No. _____

Organization P.O.B.S.P. Recorder _____

Sunrise: Time 0645 Position: Lat. 02-40N, Long. 119-25

Sunset: Time 1840 Position: Lat. 01-36N, Long. 119-25

Miles travelled from 0000 hours to sunrise = _____

Miles travelled from sunrise to sunset = _____

Miles travelled from sunset to 2400 hours = _____

+7 time
on all clocks
Although in
+8 Time Zone

	TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
--	-------------	-------------	----------	-----------

1.

2.

3.

4.

5.

Hourly Positions:

LOCAL Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
---------------	----------	-----------	-----------	----------	-----------	-----------

0100	03-08	119-21				
0200	03-00	119-22				
0300						
0400	02-45	119-24				
0500	"	"				
0600	"	"				
0700	02-36	119-27				
0800	02-27	119-28				
0900	02-20	119-28				
1000	02-13	119-29				
1100	02-09	119-28				
1200	"	"				
1300	02-05	119-28				
1400	02-57	119-28				
1500	01-50	119-28				
1600	01-41	119-27				
1700	"	"				
1800	"	"				
1900	01-32	119-23				
2000	01-23	119-23				
2100						
2200	01-03	119-23				
2300	"	"				
2400	01-03	119-23				

stop 1030

start 1713 @ 5 knots

1000 increase to 10 knots

EASTROPAC

Date 21 OCT 1967 Ship R.V. JORDAN () Cruise No. _____Organization P.O.B.S.P. Recorder _____Sunrise: Time 0640 Position: Lat. 00-19N, Long. 119-13Sunset: Time 1845 Position: Lat. 01-23S, Long. 119-13

Miles travelled from 0000 hours to sunrise = _____

Miles travelled from sunrise to sunset = 91 milesMiles travelled from sunset to 2400 hours = 46

	TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
1.				
2.				
3.				
4.				
5.				

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
0001	01-03 N	119-23				
0100	00					
0200	00-40 N	119-23				
0300						
0400	00-21 N	119-23				
0500	"	"				
0600	"	"				
0700	00-15 N	"				
0800	00-04 N	"				
0900	00-05 S	119-23				
1000	00-17 S	119-23				
1100	00-27 S	119-23				
1200	"	"				
1300	00-32 S	119-22 W				
1400	43					
1500	54					
1600	01-05 S	119-13				
1700	"	"				
1800	"	"				
1900						
2000	01-27 S	119-07				
2100						
2200						
2300	01-58 S	119-05				
2400	01-58 S	119-05				

Start 0015

Stop 0212, 0230

Start 0630

Stop 0800-0815

Stop 1030

Stop 1405

Stop 1550

Start 1810

Stop 2230

Start 0030

EASTROPAC

Date 29 Oct 1967 Ship R.U. Jordan () Cruise No. _____Organization P.O.B.S.P. Recorder _____Sunrise: Time 0640 Position: Lat. 02-51 S, Long. 119-00Sunset: Time 1835 Position: Lat. 03-07, Long. 116-55Miles travelled from 0000 hours to sunrise = 53Miles travelled from sunrise to sunset = 134Miles travelled from sunset to 2400 hours = 64

	TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
--	-------------	-------------	----------	-----------

1. 1945 Star

2.

3.

4.

5.

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
------	----------	-----------	-----------	----------	-----------	-----------

0001	01-58 S	119-05				
0100						
0200						
0300						
0400						
0500						
0600	02-42 S	119-01				
0700	02-55 S	118-59				
0800	03-08 S	118-57				
0900	03-12 S	118-48				
1000	03-12 S	118-38				
1100	03-12 S	118-28				
1200	03-12 S	118-18				
1300	03-12 S	118-08				
1400	03-11 S	117-55				
1500	03-10 S	117-42				
1600	03-10 S	117-32				
1700	03-09 S	117-19				
1800	03-09 S	117-08				
1900	03-09 S	116-57				
2000	03-09 S					
2100	03-08 S					
2200	03-08 S					
2300	03-07 S					
2400	03-07 S	115-59				

EASTROPAC 50

Date 30 Oct 1967 Ship R.V. JORDAN () Cruise No. _____Organization P.O.B.S.P.Recorder Hamilton (P.O.B.S.P.)Sunrise: Time 0620 Position: Lat. 17-01S, Long. 112-40Sunset: Time 1825 Position: Lat. _____, Long. _____Miles travelled from 0000 hours to sunrise = 5Miles travelled from sunrise to sunset = 132Miles travelled from sunset to 2400 hours = 40

	TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
1.				
2.				
3.				
4.				
5.				

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
0100						
0200						
0300						
0400						
0500	17-01 S	112-40 W				
0600	"	114-50				
0700	"	114-38				
0800	"	114-26				
0900	"	114-14				
1000	07-38 S	114-02				
1100	"	113-50				
1200	02-57 S	113-39				
1300	"	113-29				
1400	"	113-19				
1500	02-58 S	113-09				
1600	"	112-59				
1700	02-58 S	113-48				
1800	"	112-37				
1900	"	112-26				
2000	02-59 S	112-16				
2100	02-59 S	112-10				
2200	02-59 S	112-10				
2300						
2400	01-42 S	112-13				

EASTROPAC

Date 31 OCT 1967 Ship R.V. JORDAN () Cruise No. _____Organization P.O.B.S.P. Recorder _____Sunrise: Time 0607 Position: Lat. 01-55, Long. 112-17Sunset: Time 1815 Position: Lat. 0, Long. _____Miles travelled from 0000 hours to sunrise = 66Miles travelled from sunrise to sunset = 87Miles travelled from sunset to 2400 hours = 40

	TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
1.				
2.				
3.				
4.				
5.				

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
0100						
0200	02-18 S	112-16				
0300						
0400	01-57 S	112-17				
0500	01-55 S	112-17				
0600	01-57 S	112-17				
0700	01-45 S	112-18				
0800	01-32 S	112-17				
0900	01-21 S	112-16				
1000	01-08 S	112-14				
1100	00-55 S	112-13				
1200	00-45 S	112-12				
1300	00-37 S	112-12				
1400	00-37 S	112-12				
1500	00-45 S	112-12				
1600	00-30 S	112-12				
1700	00-17 S	112-14				
1800	00-02 N	112-14				
1900	00-11 N	112-14				
2000	00-15 N	112-15				
2100	00-15 N	112-15				
2200	00-15 N	112-15				
2300	00-15 N	112-15				
2400	00-15 N	112-15				

0100						
0200	02-18 S	112-16				
0300						
0400	01-57 S	112-17				
0500	01-55 S	112-17				
0600	01-57 S	112-17				
0700	01-45 S	112-18				
0800	01-32 S	112-17				
0900	01-21 S	112-16				
1000	01-08 S	112-14				
1100	00-55 S	112-13				
1200	00-45 S	112-12				
1300	00-37 S	112-12				
1400	00-37 S	112-12				
1500	00-45 S	112-12				
1600	00-30 S	112-12				
1700	00-17 S	112-14				
1800	00-02 S	112-13				
1900	00-17 S	112-14				
2000	00-02 S	112-14				
2100	00-02 N	112-14				
2200	00-11 N	112-14				
2300	00-15 N	112-15				
2400	00-15 N	112-15				

EASTROPAC

Date 1 Nov. 1967 Ship R.V. Jordan () Cruise No. Organization P.O.B.S.P. Recorder Sunrise: Time 0613 Position: Lat. 01-03 N, Long. 112-19Sunset: Time 1815 Position: Lat. 02-38, Long. 112-24Miles travelled from 0000 hours to sunrise = 42Miles travelled from sunrise to sunset = 95Miles travelled from sunset to 2400 hours = 59

	TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
1.				
2.				
3.				
4.				
5.				

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
0100						
0200	00-30 N	112-18				
0300						
0400	00-56 N	112-20				
0500	"	"				
0600	00-59 N	18				
0700	01-12 N	17				
0800	01-25 N	112-15				
0900	38 N					
1000	01-51	112-15				
1100	02-03	112-15				
1200	"	"				
1300	02-05	112-15				
1400	02-14	112-23				
1500	02-26	112-23				
1600	02-37	112-24				
1700	"	"				
1800	"	"				
1900	47	112-23				
2000	02-57	112-23				
2100	03-12	112-22				
2200	03-26	112-22				
2300	03-32	112-21				
2400	03-37	112-21				

0100						
0200	00-30 N	112-18				
0300						
0400	00-56 N	112-20				
0500	"	"				
0600	00-59 N	18				
0700	01-12 N	17				
0800	01-25 N	112-15				
0900	38 N					
1000	01-51	112-15				
1100	02-03	112-15				
1200	"	"				
1300	02-05	112-15				
1400	02-14	112-23				
1500	02-26	112-23				
1600	02-37	112-24				
1700	"	"				
1800	"	"				
1900	47	112-23				
2000	02-57	112-23				
2100	03-12	112-22				
2200	03-26	112-22				
2300	03-32	112-21				
2400	03-37	112-21				

EASTROPAC

Date 02 NOV. 1967 Ship R.V. JORDAN () Cruise No. Organization P.O.B.S.P. Recorder Sunrise: Time 0615 Position: Lat. 04-22, Long. 112-17Sunset: Time 1815 Position: Lat. 05-51, Long. 111-58Miles travelled from 0000 hours to sunrise = 44Miles travelled from sunrise to sunset = 100Miles travelled from sunset to 2400 hours = 47

TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
-------------	-------------	----------	-----------

1.

2.

3.

4.

5.

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
------	----------	-----------	-----------	----------	-----------	-----------

0100						
0200	03-54	112-19 W				
0300						
0400	04-21	112-17 W				
0500	"	-16				
0600	"	-15				
0700	04-52	112-13				
0800	04-46	112-13				
0900	04-59	112-10				
1000	05-12	112-08				
1100	05-16	"				
1200	"	"				
1300	"	"				
1400	05-26	112-06				
1500	05-38	112-06				
1600	05-51	111-58				
1700	"	"				
1800	"	"				
1900	05-53	"				
2000						
2100						
2200	06-30	112-08				
2300	"	"				
2400	"	"				

EASTROPAC

Date 03 Nov 1967 Ship R.V. JORDAN () Cruise No. _____Organization P.O.B.S.P. Recorder _____Sunrise: Time 0618 Position: Lat. 07-22, Long. 112-17Sunset: Time 1805 Position: Lat. 08-58, Long. 112-07Miles travelled from 0000 hours to sunrise = 46Miles travelled from sunrise to sunset = 94Miles travelled from sunset to 2400 hours = 54

	TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
1.				
2.				
3.				
4.				
5.				

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
0000	06-30N	112-08				
0100	06-40N	112-10				
0200	06-50	112-13				
0300						
0400	07-16	112-16				
0500	"	"				
0600	"	"				
0700	07-26					
0800	07-40	112-15				
0900	07-52	112-15				
1000	08-04	112-12				
1100	08-11	112-10				
1200	"	"				
1300	08-18	112-08				
1400	08-29	"				
1500	08-41	112-06				
1600	08-53	112-09				
1700	"	"				
1800	08-57	112-08				
1900						
2000	09-20	112-07				
2100						
2200						
2300						
2400	09-50	112-10				

EASTROPAC

Date 04 Nov 1967 Ship R.V. JORDAN () Cruise No. _____Organization P.O.B.S.P. Recorder _____Sunrise: Time 0620 Position: Lat. 10-39N, Long. 112-10Sunset: Time 1800 Position: Lat. 12-09, Long. 111-50Miles travelled from 0000 hours to sunrise = 49Miles travelled from sunrise to sunset = 94Miles travelled from sunset to 2400 hours = 57

	TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
--	-------------	-------------	----------	-----------

1.

2.

3.

4.

5.

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
------	----------	-----------	-----------	----------	-----------	-----------

0000	09-50N	112-10 W				
0100						
0200						
0300						
0400	10-33	112-08				
0500	10-35	112-08				
0600	10-44	112-09				
0700	10-53	112-10				
0800	11-03	112-10				
0900	11-15	112-10				
1000	11-27	112-10				
1100	11-35	112-10				
1200	"	"				
1300	11-36	112-10				
1400	11-43	112-09				
1500	11-56	112-02				
1600	12-07	111-58				
1700	"	"				
1800	12-09	111-50				
1900						
2000	12-28	111-31				
2100						
2200	12-41	111-14				
2300	12-50	111-10				
2400	"	"				

EASTROPAC

Date 05 NOVEMBER 1967 Ship R.V. JORDAN () Cruise No. _____

Organization P.O.B.S.P. Recorder _____

Sunrise: Time 0615 Position: Lat. 13-21, Long. 110-41

Sunset: Time 1755 Position: Lat. 14-30, Long. 109-40

Miles travelled from 0000 hours to sunrise = 48

Miles travelled from sunrise to sunset = 90

Miles travelled from sunset to 2400 hours = 56

	TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
--	-------------	-------------	----------	-----------

1.

2.

3.

4.

5.

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
0100						
0200						
0300						
0400	13-19	110-43				
0500	"	"				
0600	13-20	110-42				
0700	29	110-34				
0800	13-37	110-27				
0900	13-45	110-19				
1000	13-54	110-11				
1100	13-52	110-07				
1200	"	"				
1300	14-04	110-03				
1400	14-11	109-55				
1500	14-21	109-47				
1600	14-30	109-40				
1700	"	"				
1800	"	"				
1900	14-37	109-32				
2000	14-45	109-25				
2100						
2200	14-58	109-00				
2300	15-02	108-54				
2400	"	"				

EASTROPAC

Date 06 NOVEMBER 1967 Ship R.V. JORDAN () Cruise No. _____Organization P.O.B.S.P. Recorder _____Sunrise: Time 0612 Position: Lat. 15-26, Long. 108-18Sunset: Time 1739 Position: Lat. 16-35, Long. 107-27Miles travelled from 0000 hours to sunrise = 41Miles travelled from sunrise to sunset = 86Miles travelled from sunset to 2400 hours = 54

	TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
1.				
2.				
3.				
4.				
5.				

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
0000	15-02	108-54				
0100						
0200	15-08	108-40				
0300						
0400	15-22	108-22				
0500	"	"				
0600	15-24	108-19				
0700	15-35	108-11				
0800	15-47	108-03				
0900	16-00	107-56				
1000	16-12	107-49				
1100	16-17	107-45				
1200	"	"				
1300	16-21	107-41				
1400	16-25	107-37				
1500	16-30	107-32				
1600	16-35	107-27				
1700	"	"				
1800	"	"				
1900	16-40	107-20				
2000	16-51	107-12				
2100						
2200	17-07	106-48				
2300	17-11	106-43				
2400	"	"				

EASTROPAC

Date 07 NOV. 1967 Ship R.V. JORDAN () Cruise No.
Organization P.O.B.S.P. Recorder

Sunrise: Time 0610 Position: Lat. 17-34, Long. 106-16

Sunset: Time 1715 Position: Lat. 18-30, Long. 105-12

Miles travelled from 0000 hours to sunrise = 37

Miles travelled from sunrise to sunset = 90

Miles travelled from sunset to 2400 hours = 57

	TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
--	-------------	-------------	----------	-----------

1.

2.

3.

4.

5.

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
------	----------	-----------	-----------	----------	-----------	-----------

0000	17-10N	106-43W				
0100						
0200						
0300						
0400	17-32N	106-20				
0500						
0600	17-34	106-18				
0700	17-37	106-09				
0800	17-41	106-00				
0900	17-54	105-51				
1000	18-08	105-42				
1100	18-12	105-38				
1200	"	"				
1300	"	"				
1400	18-16	105-31				
1500	18-23	105-22				
1600	18-30	105-12				
1700	"	"				
1800	18-33	105-08				
1900	18-39	105-58				
2000	18-46	104-48				
2100						
2200						
2300						
2400	19-02	104-21				

EASTROPAC

Date 11 NOVEMBER 1967Ship R.V. JORDAN ()

Cruise No. _____

Organization P.O.B.S.P.

Recorder _____

Sunrise
 Sunrise: Time 0605 Position: Lat. Along MEXICAN COAST ca. 60 mi NE of Acapulco
~~16-18N~~, Long. MANZANILLO, MEXICO

Sunset: Time 1710 hours Position: Lat. 16°-17'N, Long. 100°-27'W

1245 — 16-42N 100-58W (off Acapulco, Mexico)
 Miles travelled from 0000 hours to sunrise = _____

1245
 Miles travelled from ~~sunrise~~ to sunset = 37

Miles travelled from sunset to 2400 hours = 61

TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
-------------	-------------	----------	-----------

1.

2.

3.

4.

5.

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
------	----------	-----------	-----------	----------	-----------	-----------

0100						
0200						
0300						
0400						
0500						
0600						
0700						
0800						
0900						
1000						
1100						
1200						
1300	16-40	100-01				
1400	16-32	100-12				
1500	16-25	100-19				
1600	16-17	100-27				
1700	"	"				
1800	16-14	100-31				
1900	16-06	100-40				
2000	15-57	100-47				
2100	15-46	100-51				
2200	15-40	101-08				
2300	"	"				
2400	"	"				

Stop 1800-1915

Stop 1600-1745

Stop 2230

EASTROPAC

Date 12 November 1967 Ship R.V. Jordan () Cruise No. _____Organization P.O.B.S.P. Recorder _____Sunrise: Time 0555 Position: Lat. 15-05 N, Long. 101-05 WSunset: Time 1723 Position: Lat. 13-08, Long. 103-27Miles travelled from 0000 hours to sunrise = 42Miles travelled from sunrise to sunset = 94Miles travelled from sunset to 2400 hours = 58

	TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
1.				
2.				
3.				
4.				
5.				

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
0001	15-00	101-08				
0100						
0200	15-28	101-32				
0300						
0400	15-08	101-40				
0500	15-08	"				
0600	15-03	101-41				
0700	14-56	101-53				
0800	14-46	102-02				
0900	14-37	102-12				
1000	14-29	102-22				
1100	14-25	102-27				
1200	"	"				
1300	14-21	102-30				
1400	14-13	102-37				
1500	14-05	102-46				
1600	13-58	102-57				
1700	"	"				
1800	13-55	103-01				
1900	13-47	103-10				
2000	13-40	103-19				
2100						
2200	13-24	103-28				
2300	"	"				
2400	"	"				

Stop 0400 - 0515

Stop 1030

Stop 1215

Stop 1550

Stop 1725

Stop 2230

Stop 2400

EASTROPAC

Date 13 November 1967 Ship R.V. JORDAN () Cruise No.

Organization P.O.B.S.P. Recorder

Sunrise: Time 0610 Position: Lat. 12-44N, Long. 104-30W

Sunset: Time 1720 Position: Lat. 11-30N, Long. 105-06W

Miles travelled from 0000 hours to sunrise = 53

Miles travelled from sunrise to sunset = 89

Miles travelled from sunset to 2400 hours = 56

TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
-------------	-------------	----------	-----------

1.

2.

3.

4.

5.

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
------	----------	-----------	-----------	----------	-----------	-----------

0001	13-24	103-38				
0100						
0200						
0300						
0400	12-48	104-15				
0500	"	"				
0600	12-11	104-18				
0700	12-38	104-27				
0800	12-30	104-36				
0900	12-22	104-45				
1000	12-14	104-54				
1100	12-10	104-58				
1200	"	"				
1300	12-01	105-00				
1400	11-50	105-02				
1500	11-40	105-06				
1600	11-30	105-06				
1700	"	"				
1800	11-26	105-06				
1900						
2000						
2100						
2200	10-40	105-18				
2300	10-35	105-19				
2400	"	"				

EASTROPAC

Date 14 November 1967Ship R.V. JORDAN ()

Cruise No. _____

Organization P.O.B.S.P.

Recorder _____

Sunrise: Time 0600Position: Lat. 09°-51' N, Long. 105°-25' WSunset: Time 1701720Position: Lat. 08°-20' N, Long. 105°-17' WMiles travelled from 0000 hours to sunrise = 45Miles travelled from sunrise to sunset = 91Miles travelled from sunset to 2400 hours = 50

TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
-------------	-------------	----------	-----------

1.

2.

3.

4.

5.

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
0000	10-25 N	105-17 W				
0100						
0200						
0300						
0400	09-54 N	105-24 W				
0500						
0600	09-51	105-25				
0700	39	105-25				
0800	38	105-26				
0900	36	105-26				
1000	09-05	105-27				
1100	09-00	105-27				
1200						
1300	08-55	105-26				
1400	08-44	105-23				
1500	08-32	105-20				
1600	08-20	105-17				
1700	11	11				
1800	08-16	105-16				
1900	08-07					
2000	07-58	105-12				
2100						
2200	07-55	105-11				
2300	07-39	105-10				
2400	07-25	11				

EASTROPAC

Date 15 November 1967 Ship R.V. JORDAN () Cruise No. Organization P.O.B.S.P. Recorder Sunrise: Time ~~0555~~ Position: Lat. 06°-44' N, Long. 105°-09' WSunset: Time ¹⁷⁴⁰1720 Position: Lat. 05°-19' N, Long. 105°-02' WMiles travelled from 0000 hours to sunrise = 43Miles travelled from sunrise to sunset = 89Miles travelled from sunset to 2400 hours = 54

	TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
1.				
2.				
3.				
4.				
5.				

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
0001	07-25N	105-10 W				
0100						
0200						
0300						
0400	06-49	105-09				
0500						
0600	06-43	105-09				
0700	32	34				
0800	31	34				
0900		105-10				
1000	05-58	105-10				
1100	05-52	105-10				
1200		105-10				
1300	05-50	105-02				
1400	40					
1500	30					
1600	05-17	105-02				
1700						
1800	05-15	105-00				
1900						
2000						
2100						
2200	04-33	105-10				
2300	04-27	105-10				
2400						

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
0001	07-25N	105-10 W				
0100						
0200						
0300						
0400	06-49	105-09				
0500						
0600	06-43	105-09				
0700	32	34				
0800	31	34				
0900		105-10				
1000	05-58	105-10				
1100	05-52	105-10				
1200		105-10				
1300	05-50	105-02				
1400	40					
1500	30					
1600	05-17	105-02				
1700						
1800	05-15	105-00				
1900						
2000						
2100						
2200	04-33	105-10				
2300	04-27	105-10				
2400						

EASTROPAC

Date 16 November 1967Ship R.V. JORDAN ()

Cruise No. _____

Organization P.O.B.S.P.

Recorder _____

Sunrise: Time 0550Position: Lat. 03-47, Long. 105-02Sunset: Time 1740

Position: Lat. _____, Long. _____

Miles travelled from 0000 hours to sunrise = 36Miles travelled from sunrise to sunset = 55Miles travelled from sunset to 2400 hours = 54

TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
-------------	-------------	----------	-----------

1.

2.

3.

4.

5.

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
0000	04-27 N	105-00 W				
0100						
0200						
0300						
0400	03-03	105-02				
0500	"					
0600	03-03	105-02				
0700	03-03	105-02				
0800	"					
0900	03-03					
1000	03-03					
1100	03-03					
1200	03-03	105-15				
1300	03-17	105-15				
1400	03-15	105-15				
1500	03-01	105-17				
1600	02-51	105-17				
1700	"					
1800	02-46	105-18				
1900						
2000	02-46	105-22				
2100						
2200	02-04	105-23				
2300	01-57	105-27				
2400	"					

EASTROPAC

Date 17 November 1967 Ship R.V. JORDAN () Cruise No. _____

Organization P.O.B.S.P. Recorder _____

Sunrise: Time 0550 Position: Lat. 21-29N, Long. 155-28W

Sunset: Time 1750 Position: Lat. 20-45N, Long. 153-16W

Miles travelled from 0000 hours to sunrise = 28

Miles travelled from sunrise to sunset = 84

Miles travelled from sunset to 2400 hours = 55

	TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
--	-------------	-------------	----------	-----------

- 1.
- 2.
- 3.
- 4.
- 5.

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
------	----------	-----------	-----------	----------	-----------	-----------

0100						
0200						
0300						
0400						
0500						
0600	21-27	155-18				
0700	21-15	155-27				
0800	21-03	155-35				
0900	20-53	155-23				
1000	20-45	155-12				
1100	20-32.4	155-01				
1200	"	"				
1300	"	"				
1400	20-21.4	155-10.4				
1500	21	14				
1600	20-31	155-29.4				
1700	20-40.8	155-16.4				
1800	20-52.4	155-06.4				
1900						
2000	20-24.5	155-15.4				
2100						
2200	20-48.2	155-12				
2300	20-54					
2400						

EASTROPAC

Date 18 November 1967Ship R.V. JORDAN ()

Cruise No. _____

Organization P.O.B.S.P.

Recorder _____

Sunrise: Time 0540Position: Lat. 01-05S, Long. 105-4WSunset: Time 1750Position: Lat. 02-57, Long. 105-13WMiles travelled from 0000 hours to sunrise = 09Miles travelled from sunrise to sunset = 94Miles travelled from sunset to 2400 hours = 51

TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
1.			
2.			
3.			
4.			
5.			

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
0000	0055S	105-13W				
0100	"	"				
0200	"	"				
0300	"	"				
0400	"	"				
0500	"	"				
0600	01-07S	105-11W				
0700	01-21	105-11				
0800	01-33	105-11				
0900	01-44S	105-11W				
1000	01-55	105-13W				
1100	02-00S	105-15				
1200	"	"				
1300	02-06	105-14				
1400	02-16	105-13				
1500	02-27	105-12				
1600	02-38	105-11				
1700	02-51	105-11				
1800	57	105-13				
1900	"	"				
2000	02-57	105-00				
2100	02-57	104-50				
2200	02-59	104-40				
2300	03-59	104-31				
2400	02-57	104-22				

EASTROPAC

Date 19 November 1967 Ship RV JORDAN () Cruise No. _____Organization P.O.B.S.P. Recorder _____Sunrise: Time 0520 Position: Lat. 03-00, Long. 101-20Sunset: Time 1738 Position: Lat. 02-02, Long. 100-52Miles travelled from 0000 hours to sunrise = 61Miles travelled from sunrise to sunset = 85Miles travelled from sunset to 2400 hours = 70

	TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
1.				
2.				
3.				
4.				
5.				

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
0000	02-57 S	104-22 W				
0100						
0200						
0300						
0400						
0500	03-00	103-28				
0600	03-00	103-14				
0700	03	01				
0800	03	48				
0900	01	35				
1000	01	23				
1100	01	10				
1200	03-02	101-58				
1300	02	48				
1400	02	37				
1500	02	27				
1600	03-02	101-16				
1700	02	101-04				
1800	03-02	100-52				
1900	02					
2000	02					
2100	02					
2200	02					
2300	02					
2400	03-02	99-48				

0100						
0200						
0300						
0400						
0500	03-00	103-28				
0600	03-00	103-14				
0700	03	01				
0800	03	48				
0900	01	35				
1000	01	23				
1100	01	10				
1200	03-02	101-58				
1300	02	48				
1400	02	37				
1500	02	27				
1600	03-02	101-16				
1700	02	101-04				
1800	03-02	100-52				
1900	02					
2000	02					
2100	02					
2200	02					
2300	02					
2400	03-02	99-48				

EASTROPAC

Date 20 November 1967 Ship R.V. JORDAN () Cruise No.

Organization P.O.B.S.P. Recorder

Sunrise: Time 0512 Position: Lat. 03-02S, Long. 098-49

Sunset: Time 1727 Position: Lat. 02-02, Long. 098-02

Miles travelled from 0000 hours to sunrise = 59

Miles travelled from sunrise to sunset = 96

Miles travelled from sunset to 2400 hours = 50

	TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
--	-------------	-------------	----------	-----------

1.

2.

3.

4.

5.

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
0001	03-02 S	098-48 W				
0100						
0200						
0300						
0400						
0500						
0600	03-02	098-31				
0700	03-02	098-20				
0800	03-01	098-15				
0900	03-01	098-10				
1000	"	"				
1100	"	"				
1200	02-50	098-12				
1300	02-29	"				
1400	02-17	098-10				
1500	02-05	098-08				
1600	"	"				
1700	"	"				
1800	"	"				
1900						
2000	01-40	098-10				
2100						
2200	01-19	098-10				
2300	01-15	098-10				
2400	"	"				

EASTROPAC

Date 21 November 1967 Ship R.V. JORDAN () Cruise No.

Organization P.O.B.S.P. Recorder

Sunrise: Time 0514 Position: Lat. 00-32 S, Long. 098-10 W

Sunset: Time 1722 Position: Lat. 00-53 N, Long. 098-14 W

Miles travelled from 0000 hours to sunrise = 41

Miles travelled from sunrise to sunset = 85

Miles travelled from sunset to 2400 hours = 55

	TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
--	-------------	-------------	----------	-----------

1.

2.

3.

4.

5.

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
------	----------	-----------	-----------	----------	-----------	-----------

0000	01-15 S	098-10 W				
0100						
0200	00-55 S	098-10 W				
0300						
0400	00-32 S	098-10				
0500	"	"				
0600	00-38 S	098-10				
0700	00-15 S	098-10				
0800	00-03 S	098-10				
0900	00 07 N	098-10				
1000	00-20 N	098-10				
1100	00-23 N	"				
1200	"	"				
1300	"	"				
1400	00-30 N	098-12				
1500	00-40 N	098-12				
1600	00-53 N	098-12				
1700	"	098-14				
1800	00-56 N	098-14				
1900		098-14				
2000	01-22 N	098-14 W				
2100						
2200	01-45 N	098-14				
2300	01-05 N	098-16				
2400	"	098-17				

EASTROPAC

Date 22 November 1967 Ship R. V. JORDAN () Cruise No.

Organization P.O.B.S.P. Recorder

Sunrise: Time 0518 Position: Lat. 02-29N, Long. 098-20W

Sunset: Time 1728 Position: Lat. 03-22N, Long. 098-10W

Miles travelled from 0000 hours to sunrise = 41

Miles travelled from sunrise to sunset = 55

Miles travelled from sunset to 2400 hours = 53

	TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
--	-------------	-------------	----------	-----------

1.

2.

3.

4.

5.

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
------	----------	-----------	-----------	----------	-----------	-----------

0001	01 45N	098-19W				
0100						
0200	02-06 N	098-20 W				
0300						
0400	02-29 N	098-20 W				
0500	30	18				
0600	30	16				
0700	31	14				
0800	31	12				
0900	02-38	098-11				
1000	02-44	098-11				
1100	47	"				
1200	48	"				
1300	02-52	"				
1400	03-02	098-10				
1500	03-13	098-10				
1600	03-23	098-10				
1700	"	"				
1800	03-27	098-10				
1900	03-38	098-10				
2000	03-50	098-10				
2100						
2200	04-11	098-08				
2300	04-15	"				
2400	"	"				

EASTROPAC

Date 23 November 1967 Ship R.V. JORDAN () Cruise No. _____Organization P.O.B.S.P. Recorder _____Sunrise: Time 0521 Position: Lat. 04-46N, Long. 098-06Sunset: Time 1717 Position: Lat. 05-09, Long. 098-10Miles travelled from 0000 hours to sunrise = 31Miles travelled from sunrise to sunset = 82Miles travelled from sunset to 2400 hours = 47

TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
-------------	-------------	----------	-----------

1.

2.

3.

4.

5.

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
0000	04-15N	098-09W				
0100						
0200	04-25	098-06				
0300						
0400	04-47	098-06				
0500	"	"				
0600	"	"				
0700	04-58	098-06				
0800	05-08	098-06				
0900	05-19	098-07				
1000	05-30	098-10				
1100	05-33	098-10				
1200	"	"				
1300	05-38	098-10				
1400	05-45	098-10				
1500	05-57	098-10				
1600	06-08	098-09				
1700	"	"				
1800	"	"				
1900	06-17	098-08				
2000						
2100						
2200	06-52	098-03				
2300	06-55	"				
2400	"	"				

EASTROPAC

Date 24 NOVEMBER 1967 Ship R.V. Jordan () Cruise No. _____Organization P.O.B.S.P. Recorder _____Sunrise: Time 05 35 Position: Lat. 07-19, Long. 098-01Sunset: Time 17 17 Position: Lat. 08-46, Long. 098-04Miles travelled from 0000 hours to sunrise = 24Miles travelled from sunrise to sunset = 88Miles travelled from sunset to 2400 hours = 51

	TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
1.				
2.				
3.				
4.				
5.				

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
0100	06-55	098-03				
0200	06-52	098-03				
0300						
0400	07-19	098-01				
0500	"	"				
0600	07-21	098-00				
0700	07-21	097-58				
0800	07-46	097-57				
0900	07-57	098-00				
1000	08-08	098-03				
1100	08-11	098-04				
1200	08-13	"				
1300	08-15	"				
1400	08-28	"				
1500	08-38	"				
1600	08-46	"				
1700	"	"				
1800	"	"				
1900	08-54	098-05				
2000	09-12	098-05				
2100	09-23	098-05				
2200	09-35	098-06				
2300	09-38	098-06				
2400	"	"				

0100	06-55	098-03				
0200	06-52	098-03				
0300						
0400	07-19	098-01				
0500	"	"				
0600	07-21	098-00				
0700	07-21	097-58				
0800	07-46	097-57				
0900	07-57	098-00				
1000	08-08	098-03				
1100	08-11	098-04				
1200	08-13	"				
1300	08-15	"				
1400	08-28	"				
1500	08-38	"				
1600	08-46	"				
1700	"	"				
1800	"	"				
1900	08-54	098-05				
2000	09-12	098-05				
2100	09-23	098-05				
2200	09-35	098-06				
2300	09-38	098-06				
2400	"	"				

EASTROPAC

Date 25 NOVEMBER 1967 Ship R.V. Jordan () Cruise No. _____Organization P.O.B.S.P. Recorder _____Sunrise: Time 0530 Position: Lat. 10-17, Long. 098-06Sunset: Time 1707 Position: Lat. 11-32, Long. 098-09Miles travelled from 0000 hours to sunrise = 39Miles travelled from sunrise to sunset = 74Miles travelled from sunset to 2400 hours = 30

	TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
1.				
2.				
3.				
4.				
5.				

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
0001	09-38	098-06				
0100						
0200	09-34	098-06				
0300						
0400	10-17	098-06				
0500	" 18	"				
0600	" 17	"				
0700	10-15					
0800	10-38	098-07				
0900	47	08				
1000	10-59	098-10				
1100	11-02	098-11				
1200						
1300						
1400						
1500						
1600	11-31	098-09				
1700						
1800						
1900						
2000						
2100	11-32	098-08				
2200	12-31	098-07				
2300	"					
2400						

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
0001	09-38	098-06				
0100						
0200	09-34	098-06				
0300						
0400	10-17	098-06				
0500	" 18	"				
0600	" 17	"				
0700	10-15					
0800	10-38	098-07				
0900	47	08				
1000	10-59	098-10				
1100	11-02	098-11				
1200						
1300						
1400						
1500						
1600	11-31	098-09				
1700						
1800						
1900						
2000						
2100	11-32	098-08				
2200	12-31	098-07				
2300	"					
2400						

EASTROPAC

Date 26 NOVEMBER 1967Ship R.V. JORDAN ()

Cruise No. _____

Organization P.O.B.S.P.

Recorder _____

Sunrise: Time 0534 Position: Lat. 17-02, Long. 116-18Sunset: Time 1731 Position: Lat. 13-02, Long. 118-13Miles travelled from 0000 hours to sunrise = 40Miles travelled from sunrise to sunset = 53Miles travelled from sunset to 2400 hours = 30

	TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
1.				
2.				
3.				
4.				
5.				

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
0100						
0200						
0300						
0400						
0500	12-32	116-18				
0600	12-36	116-17				
0700	"	"				
0800	12-39	"				
0900	12-37	"				
1000	12-42	116-10				
1100	12-50	"				
1200	"	"				
1300	12-35	116-12				
1400	12-40	116-13				
1500	12-17	116-13				
1600	12-30	116-12				
1700	"	"				
1800	"	"				
1900	12-31	116-11				
2000	12-38	116-11				
2100	12-41	116-12				
2200	12-50	116-12				
2300	12-44	116-15				
2400	"	"				

0100						
0200						
0300						
0400						
0500	12-32	116-18				
0600	12-36	116-17				
0700	"	"				
0800	12-39	"				
0900	12-37	"				
1000	12-42	116-10				
1100	12-50	"				
1200	"	"				
1300	12-35	116-12				
1400	12-40	116-13				
1500	12-17	116-13				
1600	12-30	116-12				
1700	"	"				
1800	"	"				
1900	12-31	116-11				
2000	12-38	116-11				
2100	12-41	116-12				
2200	12-50	116-12				
2300	12-44	116-15				
2400	"	"				

EASTROPAC

Date 27 NOVEMBER 1967 Ship R.V. JORDAN () Cruise No.

Organization P.O.B.S.P. Recorder

Sunrise: Time 0530 Position: Lat. , Long.

Sunset: Time 1705 Position: Lat. , Long.

Miles travelled from 0000 hours to sunrise = 111

Miles travelled from sunrise to sunset = 113

Miles travelled from sunset to 2400 hours = 79

	TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
1.				
2.				
3.				
4.				
5.				

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
0100						
0200						
0300						
0400	12-41	078-15				
0500						
0600	14-53					
0700	15-15					
0800	15-16	078-09				
0900	15-32	078-08				
1000	15-33	078-07				
1100	15-32	078-03				
1200	15-35	078-00				
1300	15-47	078-18				
1400	15-56	078-27				
1500	16-01	078-40				
1600	16-05	078-55				
1700	16-11	079-01				
1800						
1900						
2000						
2100						
2200	18-42	74-55				
2300						
2400	18-51	75-10				

EASTROPAC

Date 28 May 1967 Ship R V JORDAN () Cruise No. _____Organization P.O.B.S.P. Recorder _____Sunrise: Time 1550 Position: Lat. 17-15, Long. 101-11Sunset: Time 1715 Position: Lat. 18-11, Long. 102-53Miles travelled from 0000 hours to sunrise = 65Miles travelled from sunrise to sunset = 151Miles travelled from sunset to 2400 hours = 77

	TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
1.				
2.				
3.				
4.				
5.				

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
0100						
0200						
0300						
0400						
0500						
0600	17-15	101-13				
0700	21	101-24				
0800	26	101-35				
0900	31	101-46				
1000	36	101-57				
1100	41	102-07				
1200	45	102-20				
1300	50	102-31				
1400	55	102-42				
1500	18 00	102-54				
1600	18 05	103-05				
1700	18 10	103-16				
1800	18-14	103-27				
1900						
2000						
2100						
2200						
2300						
2400	18-53	104-27				

0100						
0200						
0300						
0400						
0500						
0600	17-15	101-13				
0700	21	101-24				
0800	26	101-35				
0900	31	101-46				
1000	36	101-57				
1100	41	102-07				
1200	45	102-20				
1300	50	102-31				
1400	55	102-42				
1500	18 00	102-54				
1600	18 05	103-05				
1700	18 10	103-16				
1800	18-14	103-27				
1900						
2000						
2100						
2200						
2300						
2400	18-53	104-27				

EASTROPAC

Date 29 NOV 1967Ship R.V. JORDAN ()

Cruise No. _____

Organization P.O.B.S.P.

Recorder _____

Sunrise: Time 0615Position: Lat. 19-15, Long. 105-00Sunset: Time 1720Position: Lat. 20-47, Long. 106-45Miles travelled from 0000 hours to sunrise = 38Miles travelled from sunrise to sunset = 134Miles travelled from sunset to 2400 hours = 78

TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
1.			
2.			
3.			
4.			
5.			

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
0100	18-53N	104-27W				
0200	19-08	104-115				
0300						
0400						
0500	19-11	104-55				
0600	19-12	104-58				
0700	19-20	105-08				
0800	20	16				
0900	20	24				
1000	20	32				
1100	20	40				
1200	20-09	105-48				
1300	20	58				
1400	20-23	106-09				
1500	20	20				
1600	20	31				
1700	20	41				
1800	20-47	106-51				
1900						
2000						
2100						
2200						
2300						
2400	21-32	107-50				

0150 Slow to 1.5 knots

0500 resume full speed

EASTROPAC

Date 30 November 1967 Ship R.V. JORDAN () Cruise No.
Organization P.O.B.S.P. Recorder

Sunrise: Time 0625 Position: Lat. , Long.

Sunset: Time 1730 Position: Lat. 22-35, Long. 110-50

Miles travelled from 0000 hours to sunrise = 73

Miles travelled from sunrise to sunset = 130

Miles travelled from sunset to 2400 hours = 74

	TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
--	-------------	-------------	----------	-----------

1.

2.

3.

4.

5.

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
------	----------	-----------	-----------	----------	-----------	-----------

0100						
0200						
0300						
0400						
0500						
0600	22-12	108-18				
0700	19	69				
0800	38	109-10				
0900	33	21				
1000	40	32				
1100	22-42	109-42				
1200	22-50	109-56				
1300	58	06				
1400	23-05	11				
1500	14	26				
1600	22-32	110-32				
1700	31	45				
1800	22-40	110-54				
1900						
2000						
2100	21-06	111-23				
2200						
2300						
2400	24-20	111-54				

10

EASTROPAC

Date 01 Dec. 1967 ~~1967~~ Ship R.V. JORDAN () Cruise No. _____Organization P.O.B.S.P. Recorder _____Sunrise: Time 0700 Position: Lat. 25-18, Long. 112-47Sunset: Time 1745 Position: Lat. _____, Long. _____Miles travelled from 0000 hours to sunrise = 77Miles travelled from sunrise to sunset = 114

Miles travelled from sunset to 2400 hours = _____

TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
1.			
2.			
3.			
4.			
5.			

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
0100						
0200						
0300						
0400						
0500						
0600						
0700	25-18	112-47				
0800	26	55				
0900	24	113 02				
1000	43	08				
1100	51	18				
1200	26-00	113-21				
1300	08	21				
1400	16	37				
1500	24	45				
1600	32	53				
1700	28-41	114-03				
1800	51	10				
1900	23-03	12				
2000	12	25				
2100	23	35				
2200	34	43				
2300	45	51				
2400	52	57				

EASTROPAC

Date 12 Dec 1967 Ship R.V. JORDAN (1) Cruise No. 29-35; 116-02Organization P.O.B.S.P. Recorder 21-17-11Sunrise: Time 0725 Position: Lat. 20-00, Long. 115-42Sunset: Time 1755 Position: Lat. 20-40, Long. 116-27Miles travelled from 0000 hours to sunrise = Miles travelled from sunrise to sunset = 117Miles travelled from sunset to 2400 hours =

	TIME OF FIX	TYPE OF FIX	LATITUDE	LONGITUDE
--	-------------	-------------	----------	-----------

1.

2.

3.

4.

5.

Hourly Positions:

Time	Latitude	Longitude	Wind Dir.	Wind Sp.	Wave Dir.	Wave Hgt.
------	----------	-----------	-----------	----------	-----------	-----------

0100	18-07	115-07				
0200	23-12	115-16				
0300	26	21				
0400	34	26				
0500	42	31				
0600	50	35				
0700	57	41				
0800	29-03	45				
0900	13	50				
1000	21	54				
1100	28	59				
1200	29-02	116-05				
1300	28	10				
1400	59	13				
1500	30-11	116-17				
1600	24	21				
1700	21	24				
1800	21	27				
1900	20-10	30				
2000						
2100						
2200						
2300						
2400	21-02	05				